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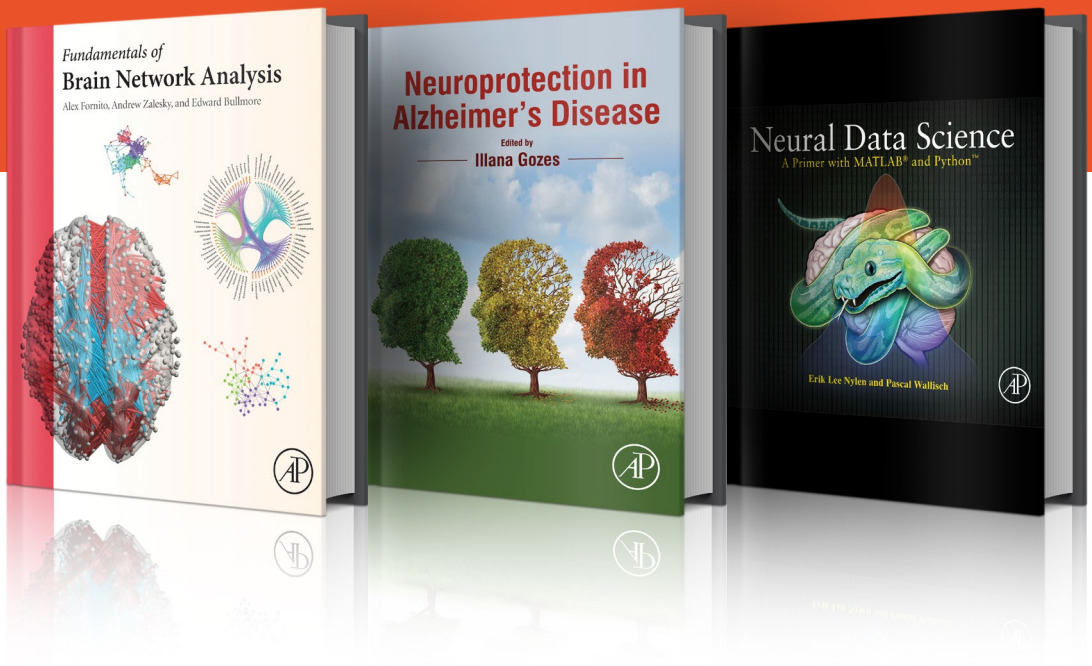


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# Table of Contents



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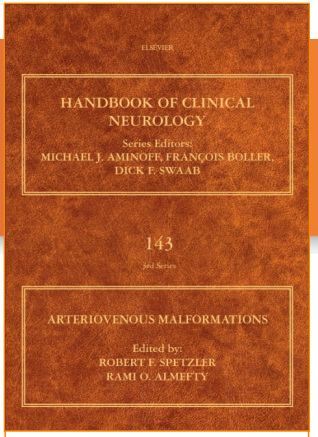


# Arteriovenous and Cavernous Malformations, Vol 143

Edited by: ***Robert F. Spetzler*** Director, Barrow Neurological Institute, Phoenix, AZ, USA
***Rami Almefty*** Barrow Neurological Institute, Phoenix, AZ, USA

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**Evidence based volume addressing both the scientific and clinical aspects of this vascular malformation, with coverage of epidemiology, etiology, diagnosis, and genetics**

A Volume in the Handbook of Clinical Neurology Series.

**ISBN:** 978-0-444-63640-9
**PUB DATE:** June 2017
**FORMAT:** Hardback
**PAGES:** c. 575
**TRIM:** 7.375w x 10.375h

**AUDIENCE**

Researchers, advanced students and clinicians in the fields of clinical neurology and neurosurgery

**KEY FEATURES**

- Offers an evidence-based focus with coverage of both the scientific and clinical aspects of cavernous malformations
- Addresses epidemiology, etiology, diagnosis, and genetics
- Clinical insights regarding indications for surgery, surgical techniques, outcomes, and prognostic factors drawn from the authors' extensive experiences
- Edited work with chapters authored by leaders in the field around the globe – the broadest, most expert coverage available

**DESCRIPTION**

Arteriovenous malformations can lead to significant neurologic symptoms – from nerve pain, bleeding, weakness and coordination difficulties to visual loss, memory deficits, and speech impairment. The current literature does not offer comprehensive, up-to-date coverage of this condition for the neurological researcher. This volume it the HCN series is an evidence-based compendium which addresses both the scientific and clinical aspects of this unique disease process. The volume covers didactic aspects, such as the epidemiology, etiology, and diagnosis of AVMs, while also providing expert clinical information on the management and treatment of these lesions. In addition, it provides coverage of modern-day advances in the genetics of cavernous malformations, as well as discussion regarding future open research questions. Readers from the laboratory bench to the bedside can expect a broad yet objective review of this pathology, with updates from the latest scientific literature and data supporting current practices.

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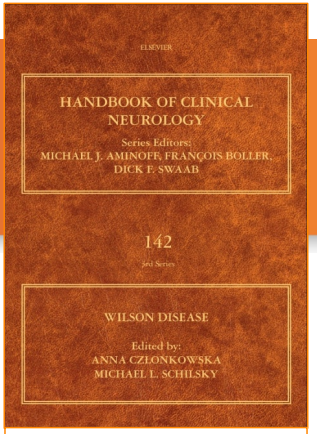



# Wilson Disease, Vol 142

Edited by: ***Anna Cz?onkowska*** 2nd Department of Neurology, Institute of Psychiatry and Neurology, Warsaw, Poland
***Michael Schilsky*** Medical Director, Adult Liver Transplant, Yale-New Haven Transplantation Center, New Haven, CT, USA

**ISBN:** 978-0-444-63625-6
**PUB DATE:** May 2017
**FORMAT:** Hardback
**PAGES:** c. 580
**TRIM:** [x]262x192mm

**AUDIENCE**
Researchers, clinicians and advanced students in clinical neurology, with additional interest in hepatology and genetics

**Offers broad coverage of this devastating disease, with an emphasis on molecular pathology, diagnosis and treatment, and multiple patient populations**

A Volume in the Handbook of Clinical Neurology Series.

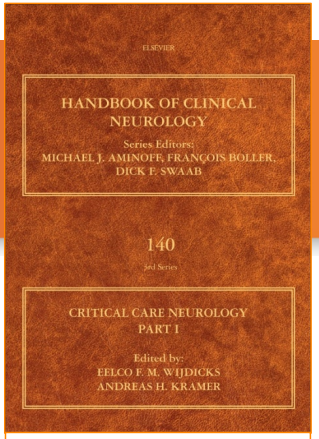
**KEY FEATURES**

- Addresses the molecular pathophysiology of WD and the clinical and pathological effects of copper
- Offers coverage of both diagnosis and medical and surgical approaches to treatment
- Includes perspectives on both adult and pediatric diagnosis and treatment
- Edited work with chapters authored by leaders in the field from around the globe—the broadest, most expert coverage available

**DESCRIPTION**

*Wilson Disease* provides a comprehensive guide on this inherited genetic disorder that has devastating consequences for both the liver and neurologic/psychiatric health. This disease is of increasing interest to neurologists, hepatologists, and geneticists, but when the disease is diagnosed early, it is treatable, with patients living normal lives.

This volume describes the molecular pathophysiology of WD and the clinical and pathological effects of copper. Separate sections address both diagnosis and medical and surgical approaches to treatment. Both adult and pediatric perspectives on diagnosis and treatment are addressed, and a section on genetics highlights advances in molecular diagnostics. Patient support groups that can aid in coping with this disease are also discussed, as are animal models for those interested in basic research on cell biology, pathophysiology, and treatment.




# Critical Care Neurology Part I, Vol 140

## *Neurocritical Care*

Edited by: ***Eelco F. M. Wijdicks*** Saint Mary's Hospital, Mayo Clinic, Rochester, MN, USA
***Andreas H Kramer*** Hotchkiss Brain Institute, University of Calgary, Calgary, AB, Canada

ELSEVIER

**Comprehensive coverage of the neurocritical management of both neurologic disease and neurologic complications that arise from critical illnesses in the ICU**

A Volume in the Handbook of Clinical Neurology Series.

**ISBN:** 978-0-444-63600-3
**PUB DATE:** February 2017
**FORMAT:** Hardback
**PAGES:** c. 584
**TRIM:** 192x262mm

**AUDIENCE**

Researchers, clinicians and advanced students in the fields of neurology, psychiatry, and clinical neuroscience

**KEY FEATURES**

- Provides an essential neurocritical care overview for general neurologists
- Presents neurocritical care specialists with an update on severe neurological illness management
- Offers coverage of all the most frequent neurologic diseases requiring intensive care
- Includes chapters authored by global leaders in the field, providing the broadest, most expert coverage available on the topics discussed

**DESCRIPTION**

*Critical Care Neurology, Part I: Neurocritical Care* focuses on the care specialists and general neurologists that consult in the ICU and their work with patients in acute, life-threatening situations who are dealing with neurologic or neurosurgical crises emanating from either a preexisting neurologic syndrome or from a new neurologic complication appearing as a result of another medical or surgical critical illness.

These two separate clinical situations form the pillars of neurocritical care, hence these practices are addressed via two separate, but closely related, HCN volumes. Chapters in both focus on pathophysiology and management, and are tailored for both general neurologists and active neurocritical specialists, with a specific focus on management over diagnostics.

Part I addresses the principles of neurocritical care and the management of various neurologic diseases. Part II addresses the interplay between neurologic complications and the surgical, medical, cardiac, and trauma of critical illnesses that most typically present in the ICU.

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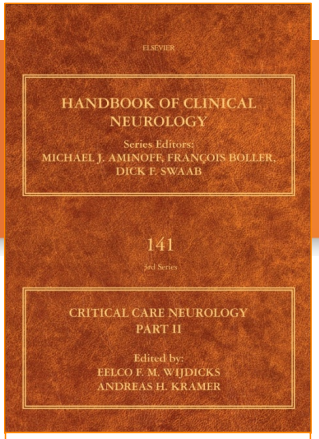


# Critical Care Neurology Part II, Vol 141

## *Neurology of Critical Illness*

Edited by: ***Eelco F. M. Wijdicks*** Saint Mary's Hospital, Mayo Clinic, Rochester, MN, USA
***Andreas H Kramer*** Hotchkiss Brain Institute, University of Calgary, Calgary, AB, Canada

ELSEVIER

**Comprehensive coverage of the neurocritical management of both neurologic disease and neurologic complications that arise from critical illnesses in the ICU**

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Provides an essential neurocritical care overview for general neurologists
- Presents neurocritical care specialists with an update on severe neurological illness management
- Offers coverage of all the most frequent neurologic diseases requiring intensive care
- Includes chapters authored by global leaders in the field, providing the broadest, most expert coverage available on the topics discussed

**DESCRIPTION**

*Critical Care Neurology, Part II: Neurology of Critical Illness* focuses on the care specialists and general neurologists that consult in the ICU and their work with patients in acute, life-threatening situations who are dealing with neurologic or neurosurgical crises emanating from either a preexisting neurologic syndrome or from a new neurologic complication appearing as a result of another medical or surgical critical illness.

These two separate clinical situations form the pillars of neurocritical care, hence these practices are addressed via two separate, but closely related, HCN volumes. Chapters in both focus on pathophysiology and management, and are tailored for both general neurologists and active neurocritical specialists, with a specific focus on management over diagnostics.

Part I addresses the principles of neurocritical care and the management of various neurologic diseases. Part II addresses the interplay between neurologic complications and the surgical, medical, cardiac, and trauma of critical illnesses that most typically present in the ICU.

**ISBN:** 978-0-444-63599-0
**PUB DATE:** February 2017
**FORMAT:** Hardback
**PAGES:** c. 584
**TRIM:** 192x262mm

**AUDIENCE**

Researchers, clinicians and advanced students in the fields of neurology, psychiatry, and clinical neuroscience

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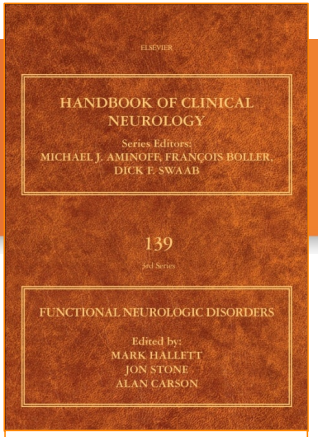


# Functional Neurologic Disorders, Vol 139

Edited by: ***Mark Hallett*** National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA
***Jon Stone*** Department of Clinical Neurosciences, University of Edinburgh, Western General Hospital, Edinburgh, UK
***Alan J Carson*** Department of Rehabilitation Medicine and Department of Clinical Neurosciences NHS Lothian, & Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, UK

**As the only reference to address conversion disorders from both a clinical and research perspective, this book emphasizes history, epidemiology, symptoms, and treatment as compiled by an internationally acclaimed group of experts in neurology, psychiatry, and neuroscience**

**For further information, see the Handbook of Clinical Neurology series page: http://store.elsevier.com/HCN**

**ISBN:** 978-0-12-801772-2
**PUB DATE:** October 2016
**FORMAT:** Hardback
**PAGES:** c. 662
**TRIM:** 192x262mm

**AUDIENCE**
Researchers, clinicians and advanced students in clinical neuroscience, neurology and psychiatry

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Offers a comprehensive interdisciplinary approach for the care of patients with functional disorders seen in neurologic practice, leading to more efficient prevention, management, and treatment
- Provides a synthesis of research efforts incorporating clinical, brain imaging and neurophysiological studies
- Fills an existing gap between traditional neurology and traditional psychiatry
- Contents include coverage of history, epidemiology, clinical presentations, and therapy
- Edited work with chapters authored by leaders in the field, the broadest, most expert coverage available

**DESCRIPTION**

*Functional Neurologic Disorders,* the latest volume in the *Handbook of Clinical Neurology* series, summarizes state-of-the-art research findings and clinical practice on this class of disorders at the interface between neurology and psychiatry. This 51-chapter volume offers an historical introduction, chapters on epidemiology and pathophysiolology, a large section on the clinical features of different type of functional neurologic symptoms and disorders (including functional movement disorders, non-epileptic seizures, dizziness, vision, hearing, speech and cognitive symptoms), and then concluding with approaches to therapy.

This group of internationally acclaimed experts in neurology, psychiatry, and neuroscience represent a broad spectrum of areas of expertise, chosen for their ability to write clearly and concisely with an eye toward a clinical audience. This HCN volume sets a new landmark standard for a comprehensive, multi-authored work dealing with functional neurologic disorders (also described as psychogenic, dissociative or conversion disorders).

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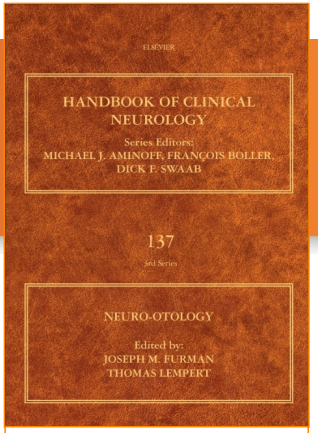


# Neuro-Otology, Vol 137

Edited by: ***Joseph Furman*** Department of Otolaryngology, University of Pittsburgh, Pittsburgh, PA, USA
***Thomas Lempert*** Facharzt für Neurologie, Schlosspark-Klinik, Berlin, Germany

ELSEVIER

**The new standard for multi-author texts in the field of neuro-otology, this practical handbook provides a thorough review of the most recent clinical research and diagnostic techniques for disorders of the peripheral and central vestibular system and is useful for clinical neurologists who need current scholarly information related to dizziness and disequilibrium. For further information, see the Handbook of Clinical Neurology series page: http://store.elsevier.com/HCN**

**ISBN:** 978-0-444-63437-5
**PUB DATE:** September 2016
**FORMAT:** Hardback
**PAGES:** c. 416
**TRIM:** 192x262mm

**AUDIENCE**

Researchers, clinicians and advanced students in the fields of neuro-otology, otolaryngology, neurology, clinical neuroscience

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Synthesizes widely dispersed information on the anatomy and physiology of neuro-otologic conditions into one comprehensive resource
- Features input from renowned international authors in basic science, otology, and neuroscience
- Presents the latest assessment of the techniques needed to diagnose and treat patients with dizziness, vertigo, and imbalance
- Provides the reader with an updated, in-depth review of the clinically relevant science and the clinical approach to those disorders of the peripheral and central vestibular system

**DESCRIPTION**

*Neuro-Otology: a volume in the Handbook of Clinical Neurology* series, provides a comprehensive translational reference on the disorders of the peripheral and central vestibular system. The volume is aimed at serving clinical neurologists who wish to know the most current established information related to dizziness and disequilibrium from a clinical, yet scholarly, perspective.

This handbook sets the new standard for comprehensive multi-authored textbooks in the field of neuro-otology. The volume is divided into three sections, including basic aspects, diagnostic and therapeutic management, and neuro-otologic disorders. Internationally acclaimed chapter authors represent a broad spectrum of areas of expertise, chosen for their ability to write clearly and concisely with an eye toward a clinical audience.

The Basic Aspects section is brief and covers the material in sufficient depth necessary for understanding later translational and clinical material. The Diagnostic and Therapeutic Management section covers all of the essential topics in the evaluation and treatment of patients with dizziness and disequilibrium. The section on Neuro-otologic Disorders is the largest portion of the volume and addresses every major diagnostic category in the field.

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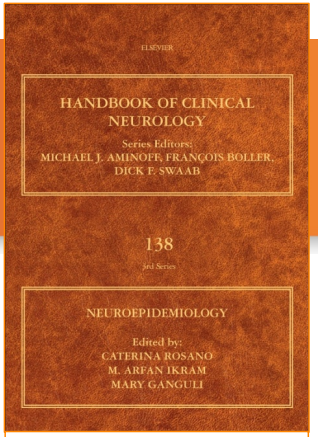



# Neuroepidemiology, Vol 138

Edited by: ***Caterina Rosano*** Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA, USA
***M. Arfan Ikram*** Department of Neuroepidemiology, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands
***Mary Ganguli*** Professor of Psychiatry, Epidemiology, and Neurology, University of Pittsburgh, Pittsburgh, PA, USA

ELSEVIER

**Covering the foundations of neuroepidemiological research and the epidemiology of disorders affecting the nervous system, this extensive resource emphasizes methodological approaches**

A Volume in the Handbook of Clinical Neurology Series.

**ISBN:** 978-0-12-802973-2
**PUB DATE:** September 2016
**FORMAT:** Hardback
**PAGES:** c. 336
**TRIM:** 192x262mm

**AUDIENCE**

Researchers, clinicians and advanced students in the fields of neurology, psychiatry, neuropsychology, genetics and clinical neuroscience

**KEY FEATURES**

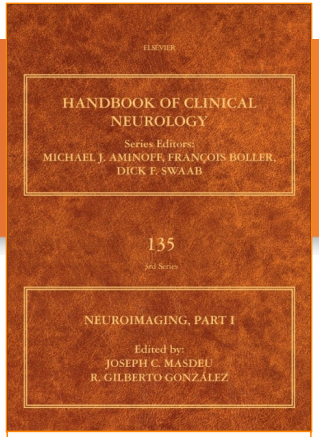
- Includes coverage of the foundations of neuroepidemiological research and the epidemiology of disorders primarily affecting the nervous system, as well as those originating outside the nervous system
- Describes the most recent methodologies to define and quantify the burden of CNS disorders and to understand the underlying mechanisms, with neuroimaging and molecular methods receiving particular emphasis
- Offers extensive description of those neurological conditions that are secondary to other diseases whose incidence is on the rise because of longer survival rates
- Features chapters authored by leaders in the field from around the globe

**DESCRIPTION**

*Neuroepidemiology* covers the foundations of neuroepidemiological research and the epidemiology of disorders primarily affecting the nervous system, as well as those originating outside the nervous system. The etiology of many important central nervous system disorders remains elusive. Even with diseases where the key risk determinants have been identified, better prevention and therapy is needed to reduce high incidence and mortality. Although evolving technologies for studying disease provide opportunities for such, it is essential for researchers and clinicians to understand how best to apply such technology in the context of carefully characterized patient populations.

By paying special attention to methodological approaches, this volume prepares new investigators from a variety of disciplines to conduct epidemiological studies in order to discern the etiologic factors and underlying mechanisms that influence the onset, progression, and recurrence of CNS disorders and diseases. The book also provides current information on methodological approaches for clinical neurologists seeking to expand their knowledge in research.






# Neuroimaging, Part I, Vol 135

Edited by: ***Joseph C Masdeu*** Director, Nantz National Alzheimer Center and Neuroimaging, Houston Methodist Hospital, Professor of Neurology, Weill Cornell Medical College, Houston, TX, USA
***R. Gilberto Gonzalez*** Professor of Radiology, Massachusetts General Hospital, Boston, MA, USA

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**This text provides a comprehensive view of the field of neuroimaging for both beginners and specialists, with a focus on imaging of the adult brain.**

**For further information, see the Handbook of Clinical Neurology series page:**

**http://store.elsevier.com/HCN**

**ISBN:** 978-0-444-53485-9
**PUB DATE:** July 2016
**FORMAT:** Hardback
**PAGES:** c. 708
**TRIM:** 192x262mm

**AUDIENCE**
Beginners and specialists in neurology, neurosurgery, psychology, biomedical engineering, radiology, and systems neuroscience

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Provides a relevant description of the technologies used in neuroimaging, including computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and several others
- Ideal resource for anyone studying the nervous system, from beginners to specialists interested in recent advances in neuroimaging of the adult brain
- Discusses the application of imaging techniques to the study of brain and spinal cord disease and its use in various syndromes
- Contains vibrant, colorful images to illustrate key points

**DESCRIPTION**

*Neuroimaging, Part One,* a text from *The Handbook of Clinical Neurology* illustrates how neuroimaging is rapidly expanding its reach and applications in clinical neurology. It is an ideal resource for anyone interested in the study of the nervous system, and is useful to both beginners in various related fields and to specialists who want to update or refresh their knowledge base on neuroimaging.

This first volume specifically covers a description of imaging techniques used in the adult brain, aiming to bring a comprehensive view of the field of neuroimaging to a varying audience. It brings broad coverage of the topic using many color images to illustrate key points.

Contributions from leading global experts are collated, providing the broadest view of neuroimaging as it currently stands. For a number of neurological disorders, imaging is not only critical for diagnosis, but also for monitoring the effect of therapies, and the entire field is moving from curing diseases to preventing them. Most of the information contained in this volume reflects the newness of this approach, pointing to this new horizon in the study of neurological disorders.

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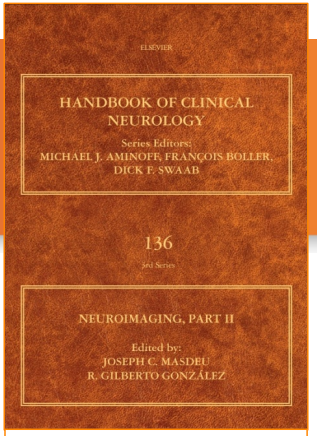


# Neuroimaging, Part II, Vol 136

Edited by: ***Joseph C Masdeu*** Director, Nantz National Alzheimer Center and Neuroimaging, Houston Methodist Hospital, Professor of Neurology, Weill Cornell Medical College, Houston, TX, USA
***R. Gilberto Gonzalez*** Professor of Radiology, Massachusetts General Hospital, Boston, MA, USA

ELSEVIER

**ISBN:** 978-0-444-53486-6
**PUB DATE:** July 2016
**FORMAT:** Hardback
**PAGES:** c. 700
**TRIM:** 192x262mm

**AUDIENCE**

Beginners and specialists in neurology, neurosurgery, psychology, biomedical engineering, radiology, and systems neuroscience

**This second volume covers imaging of the adult spine and peripheral nervous system, as well as pediatric neuroimaging, providing an overview of the differential diagnosis of the most common imaging findings.**

**For further information, see the Handbook of Clinical Neurology series page:**

**http://store.elsevier.com/HCN**

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Provides a relevant description of the technologies used in neuroimaging, such as computed tomography, magnetic resonance imaging, positron emission tomography, and several others
- Discusses the application of these techniques to the study of brain and spinal cord disease
- Explores the indications for the use of these techniques in various syndromes

**DESCRIPTION**

*Neuroimaging, Part Two,* a volume in *The Handbook of Clinical Neurology* series, illustrates how neuroimaging is rapidly expanding its reach and applications in clinical neurology. It is an ideal resource for anyone interested in the study of the nervous system, and is useful to both beginners in various related fields and to specialists who want to update or refresh their knowledge base on neuroimaging.

This second volume covers imaging of the adult spine and peripheral nervous system, as well as pediatric neuroimaging. In addition, it provides an overview of the differential diagnosis of the most common imaging findings, such as ring enhancement on MRI, and a review of the indications for imaging in the most frequent neurological syndromes.

The volume concludes with a review of neuroimaging in experimental animals and how it relates to neuropathology. It brings broad coverage of the topic using many color images to illustrate key points. Contributions from leading global experts are collated, providing the broadest view of neuroimaging as it currently stands.

For a number of neurological disorders, imaging is not only critical for diagnosis, but also for monitoring the effect of therapies, with the entire field moving from curing diseases to preventing them. Most of the information contained in this volume reflects the newness of this approach, pointing to the new horizon in the study of neurological disorders.

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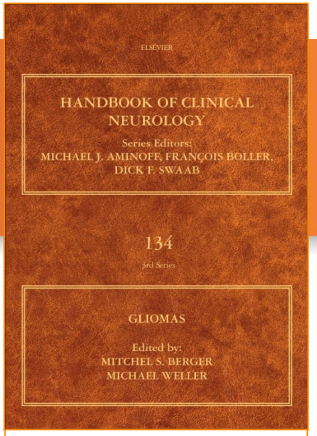


# Gliomas, Vol 134

Edited by: ***Mitchel S. Berger*** Kathleen M. Plant Distinguished Professor and Chairman, Department of Neurological Surgery; Director, Neurological Surgery Research Centers and Brain Tumor Research Center; Director, Brain Tumor Surgery Program, University of California, San Francisco, San Francisco, CA
***Michael Weller*** Department of Neurology, University Hospital Zurich, Zurich, Switzerland

ELSEVIER

**Comprehensive resource for clinicians and researchers seeking the most up-to-date information on gliomas and their management**

**For further information, see the Handbook of Clinical Neurology series page:**

**http://store.elsevier.com/HCN**

**ISBN:** 978-0-12-802997-8
**PUB DATE:** May 2016
**FORMAT:** Hardback
**PAGES:** c. 448
**TRIM:** 192x262mm

**AUDIENCE**
Researchers, clinicians and advanced students in the fields of neurology, neuro-oncology, neurosurgery, radiation oncology, and clinical neuroscience.

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Synthesizes widely dispersed information on the management of gliomas into one comprehensive resource
- Chapters written by international authors who are preeminent researchers in the field
- Fully explores the therapeutic options for patient care, from chemotherapy to radiotherapy to personalized approaches

**DESCRIPTION**

Researchers' knowledge of gliomas continues to advance rapidly at both the basic and translational levels, and *Gliomas* provides a thorough overview of the evolving fields of tumor biology and clinical medicine as they relate to our understanding of brain tumors.

*Gliomas* reviews the current paradigms that underlie these fields, beginning with the molecular epidemiology of glioma susceptibility and prognosis through population-based science and genome-wide association studies. The book's discussion of imaging modalities extends beyond advances in anatomical imaging to include metabolic and physiological studies. This work provides thorough discussion of the clinical view of tumors, ranging from the presentation of the patient to surgical management, and covers all therapeutic options for patient care, including chemotherapy, targeted molecular therapies, immunotherapies, and even personalized approaches to impact the set of lesions. Additionally, the book discusses radiotherapy with regard to the many options available to treat patients using myriad fractionated techniques with various sources. Finally, *Gliomas* reviews issues specific to the quality of life for patients, and techniques for maximizing the effect of caregivers.

Edited and authored by premier researchers from around the world, *Gliomas* is a comprehensive reference for clinicians and researchers seeking the most up-to-date information on gliomas, and a guide to the best ways to effectively manage glioma patients and their care.

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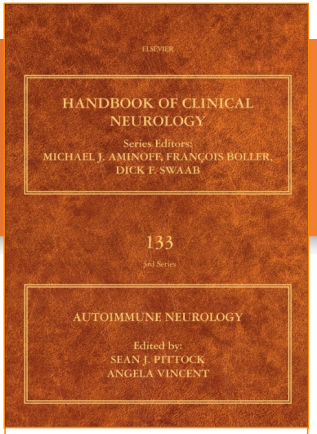


# Autoimmune Neurology, Vol 133

Edited by: ***Sean J. Pittock*** Associate Professor of Neurology and Co-Director, Neuroimmunology Laboratory, Mayo Clinic, Rochester, MN, USA
***Angela Vincent*** The Weatherall Institute for Molecular Medicine, University of Oxford, John Radcliffe Hospital, Oxford, UK

ELSEVIER

**This thorough reference presents the latest information on autoimmune neurologic disease, the immune response to the body where organs run wild, causing the immune system to attack itself.**

**For further information, see the Handbook of Clinical Neurology series page:**

**http://store.elsevier.com/HCN**

**ISBN:** 978-0-444-63432-0
**PUB DATE:** March 2016
**FORMAT:** Hardback
**PAGES:** c. 552
**TRIM:** 192x262mm

**AUDIENCE**
Neuroscience researchers, clinical neurologists, neuroimmunology researchers

A Volume in the Handbook of Clinical Neurology Series.

**KEY FEATURES**

- Includes comprehensive coverage of autoimmune neurology
- Details the latest techniques for the study, diagnosis, and treatment of diseases and disorders, including dementia, neuromuscular disease, epilepsy, and sleep disorders
- Presents a focused reference for clinical practitioners and the clinical neurology and neurology research communities

**DESCRIPTION**

*Autoimmune Neurology* presents the latest information on autoimmune neurologic disease, the immune response to the body where organs run wild, causing the immune system to attack itself. Autoimmunity is a main element in numerous nervous system diseases and can target any structure within the central or peripheral nervous system.

Over the past 20 years, significant advances in our understanding of the pathophysiology of autoimmune disorders, including the use of biomarkers has led to new diagnosis and treatment options. Neurologic conditions associated with autoimmune reactions include dementia, neuromuscular disease, epilepsy, sleep disorders, diabetes, and other common neurologic disorders and disease.

This current tutorial-reference will be a must-have title for clinical neurologists, research neurologists, neuroscientists, and any medical professional working with autoimmune disease and disorders.

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# Essentials of Noncoding RNA in Neuroscience

## *Ontogenetics, Plasticity of the Vertebrate Brain*

Edited by: ***Davide De Pietri Tonelli*** Italian Institute of Technology, Genova, Italy

**An up-to-date reference on microRNA biology in the brain and its role in ontogenetics, evolution, and proper function of the forebrain**

**ISBN:** 978-0-12-804402-5

**PUB DATE:** June 2017

**FORMAT:** Hardback

**PAGES:** c. 300

**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, biomedical researchers, RNA biologists, grad students, postdocs

**KEY FEATURES**

- Discusses the unique features of neural miRNAs
- Details functional investigation of miRNA actions and current experimental approaches
- Extensive coverage of miRNA biology, developmental and postnatal neurogenesis, and computational/-omics challenges for miRNA target identification
- Contains thorough discussion of the transcriptional control of miRNA expression in forebrain development and in specific neuronal subtypes, as well as miRNA function in neurogenesis, neuronal network maturation, plasticity, gliogenesis, and dysfunction
- Additional chapters discuss emerging features of miRNA biology, such as miRNA-independent functions of miRNA biogenesis machinery, post-transcriptional modifications of miRNAs, novel classes of small non-coding RNAs and their cross talk with miRNAs, and adaptation of neural mRNAs to miRNA-dependent control
- Contains overview of miRNA roles in neurodevelopmental disorders and their possible role in the evolution of the neocortex

**DESCRIPTION**

*Neurobiology of microRNAs: Ontogenetics and Evolution of the Mammalian Forebrain* focuses on the role of miRNAs in neurogenesis, gliogenesis, neuronal network formation, and the cell biology of forebrain development. The important role miRNAs play in neuronal maturation, neocortex function, and in some neurodevelopmental disorders is discussed, as are the computational challenges and methods used in the identification of miRNA targets.

This book is a valuable reference for neuroscientists who wish to better understand the role of miRNAs in complex processes. It is of strong interest to those working to develop enabling technologies to detect and monitor miRNA expression and function, and to evaluate its roles in neural progenitor proliferation/differentiation, neuronal plasticity, and learning and memory.

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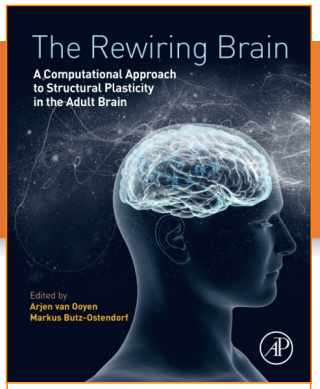


# The Rewiring Brain

## *A Computational Approach to Structural Plasticity in the Adult Brain*

Edited by: ***Arjen van Ooyen*** Department of Integrative Neurophysiology, Center for Neurogenomics and Cognitive Research (CNCR), VU University Amsterdam, Amsterdam, The Netherlands
***Markus Butz-Ostendorf*** Simulation Lab Neuroscience, Bernstein Facility for Simulation and Database Technology, Jülich Aachen Research Alliance, Forschungszentrum Jülich, Wilhelm-Johnen-Straße, Jülich, Germany

**Comprehensive reference providing a valuable overview of contemporary computational and theoretical studies on structural plasticity**

**ISBN:** 978-0-12-803784-3
**PUB DATE:** June 2017
**FORMAT:** Hardback
**PAGES:** c. 430
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Advanced graduate students and researchers in the fields of computational neuroscience, experimental neuroscience, neurobiology, and computer science

**KEY FEATURES**

- First comprehensive reference that gives a valuable overview of contemporary computational and theoretical studies on structural plasticity
- Give insights to the potential driving forces and functional implications of structural plasticity for cognition and serves as inspiration for developing novel treatment strategies for stimulating functional repair after brain damage
- Edited by two of the leading researchers in analytical approaches to studying activity-dependent structural brain development and repair

**DESCRIPTION**

Exploring the role of structural plasticity in brain function can be greatly assisted by mathematical and computational models. However, most traditional neuronal network models have a fixed connectivity structure, with plasticity merely arising from changes in connection strength (synaptic plasticity). In *The Rewiring Brain*, the editors bring together for the first time recent modelling studies that investigate the implications of structural plasticity for brain function and connectivity. It contains a valuable overview of contemporary computational and theoretical studies on structural plasticity. Starting with an experimental background on structural plasticity in the adult brain, the book covers computational studies on critical connectivity, network reorganization and recovery following lesions or stroke, synapse formation, interaction between synaptic and structural plasticity, functional consequences of synaptic rewiring and neurogenesis for learning and memory, and the relation between neurological disorders and structural connectivity.

Structural plasticity adds a whole new dimension to brain plasticity, and *The Rewiring Brain* shows how computational approaches may help to gain a better understanding of the full adaptive potential of the brain in health and disease. This book is written for both computational and experimental neuroscientists, as well as neurobiologists and computer scientists.

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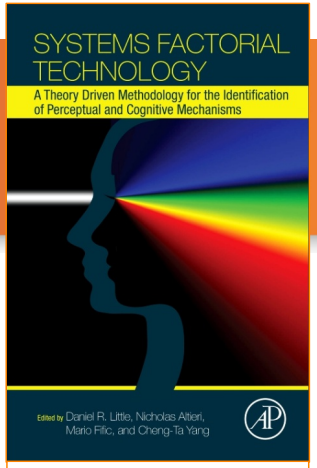


# Systems Factorial Technology

## *A Theory Driven Methodology for the Identification of Perceptual and Cognitive Mechanisms*

Edited by: ***Daniel Little*** Psychological Sciences, The University of Melbourne, Victoria, Australia
***Nicholas Altieri*** Idaho State University, Department of Communication Sciences and Disorders, Pocatello, ID, USA
***Mario Fific*** Grand Valley State University, Dept. of Psychology, Allendale, MI, USA
***Cheng-Ta Yang*** National Cheng Kung University, Department of Psychology and Insitute of Cognitive Science, Taiwan (R.O.C.)

**Introduction to and tutorial on how to use systems factorial technology across multiple psychological and cognitive domains**

**KEY FEATURES**

- Provides a thorough introduction to the diagnostic tools offered by SFT
- Includes a tutorial on applying the method to reaction time data from a variety of different situations
- Introduces novel advances for testing the significance of SFT results
- Incorporates new measures which allow for the relaxation of the high accuracy criterion
- Examines tools to expand the scope of SFT analyses
- Applies SFT to a spectrum of different cognitive domains across different sensory modalities

**DESCRIPTION**

Based on the landmark work by James T. Townsend and colleagues, *Systems Factorial Technology* (SFT) explores theoretical and methodological tools used to investigate fundamental questions central to basic psychological and perceptual processes. Such processes include detection, identification, classification, recognition, and decision making. This book collects the tools that allow researchers to deal with the pervasive model mimicry problems which exist in standard experimental and theoretical paradigms; it includes novel applications to not only basic psychological questions, but also clinical diagnosis and links to neuroscience. Though the work here is among the most mathematically sophisticated in the psychological sciences, the editors have ensured the material is accessible and understandable.

Researchers can use this book to get started using the methodology behind SFT and get an overview of current uses and future directions. The collected developments and applications of SFT allow us to peer inside the "human mind", and provide strong constraints on psychological theory.

**ISBN:** 978-0-12-804315-8
**PUB DATE:** June 2017
**FORMAT:** Hardback
**PAGES:** c. 330
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and students in psychology and neuroscience who study cognition, perception, decision-making, visual and/or auditory attention, and mathematical psychology

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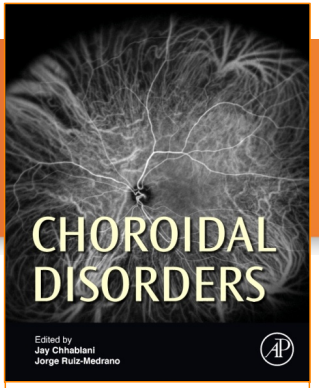


# Choroidal Disorders

Edited by: ***Jay Chhablani*** Consultant, L.V.Prasad Eye Institute, Kallam Anji Reddy Campus, L.V.Prasad Marg, Banjara Hills, Hyderabad, India
***Jorge Ruiz-Medrano*** Ophthalmology Unit, Clinico San Carlos University Hospital, Madrid, Spain

## A reference on chorio-retinal disorders including findings on newer imaging modalities and recent management strategies

**ISBN:** 978-0-12-805313-3
**PUB DATE:** June 2017
**FORMAT:** Hardback
**PAGES:** c. 386
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers and clinical practitioners in sensory systems (vision), Ophthalmologists, and retina specialists

**KEY FEATURES**

- Concise overview of various chorioretinal disorders with special emphasis on choroidal imaging
- Written for practitioners and researchers in sensory systems (vision), ophthalmologists, and retina specialists
- Covers the most advanced imaging techniques in choroidal disorders such as enhanced depth imaging OCT, swept source OCT, OCT angiography

**DESCRIPTION**

Recently, understanding of the choroid has significantly improved with the development of advanced OCT (Optical Coherence Tomography) and its role in posterior segment diseases is being well appreciated. This has improved the diagnostic capabilities, decision for appropriate therapeutic intervention and assessment of prognosis of various chorioretinal disorders.

*Choroidal Disorders* provides an overview on various chorioretinal disorders with a special emphasis on choroidal imaging inclusive of conventional techniques such as ultrasonography, indocyanine green angiography. It covers the most advanced techniques such as enhanced depth imaging OCT, swept source OCT, OCT angiography. This book includes a discussion on paradigm shift in recent management strategies in these disorders and the current standard of care.

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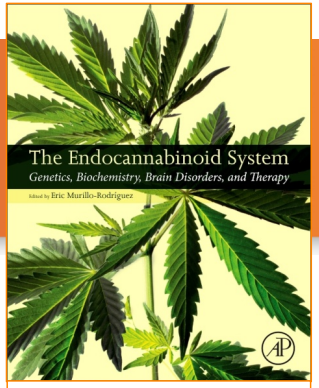


# The Endocannabinoid System

## *Genetics, Biochemistry, Brain Disorders, and Therapy*

***Eric Murillo-Rodríguez*** PhD (Editor) Universidad Anáhuac Mayab, Mexico

**A reference on the cellular characteristics of the endocannabinoid system, its role in brain disorders, and potential therapies**

**ISBN:** 978-0-12-809666-6

**PUB DATE:** June 2017

**FORMAT:** Hardback

**PAGES:** c. 430

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, graduate and undergraduate students in biological and biomedical sciences, post-doctoral fellows, researchers

**KEY FEATURES**

- An introduction to endocannabinoids in the central nervous system and an overview to their functions in the brain
- Provides information on neurobiological and cellular studies on the role of the cannabinoid signalling system and its implications in human diseases
- Includes well-written overviews of the basics of endocannabinoid system structure and function written by expert authors from all over the world. Well-illustrated material, with diagrams, charts, and tables
- Contains compelling case studies and chapters written by world experts

**DESCRIPTION**

*The Endocannabinoid System: Genetics, Biochemistry, Brain Disorders, and Therapy* examines the cellular, biochemical, genetic, and therapeutic aspects of the endocannabinoid system. The chapters cover significant conceptual advances in the endocannabinoid field, and shed light on the many brain disorders this biological system is involved in. Written by world-leading experts in the field, the topics covered in this book will have a positive impact in the area of molecular biology, including but not limited to cell biology, neuroscience, pharmacology, signaling, disease mechanisms, and therapeutics.

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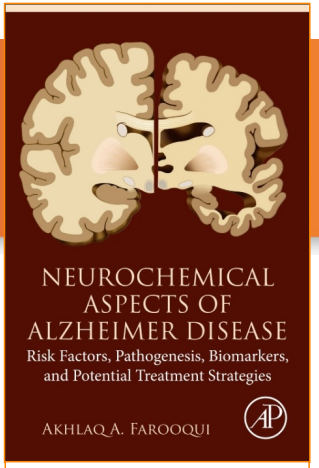


# Neurochemical Aspects of Alzheimer Disease

## *Risk Factors, Pathogenesis, Biomarkers, and Potential Treatment Strategies*

***Akhlaq A. Farooqui*** The Ohio State University, Columbus, OH, USA

**Provide a comprehensive overview of molecular aspects of risk factors, pathogenesis, biomarkers, and therapeutic strategies for Alzheimer disease**

**ISBN:** 978-0-12-809937-7

**PUB DATE:** June 2017

**FORMAT:** Paperback

**PAGES:** c. 280

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers, clinical practitioners, and advanced graduate students in clinical neuroscience, neurology, neurochemistry, and neuropharmacology

**KEY FEATURES**

- Provides a comprehensive overview of molecular aspects of risk factors, pathogenesis, biomarkers, and therapeutic strategies for Alzheimer disease
- Written for researchers, clinicians and advanced graduate students in neurology, neuroscience, neurochemistry, and neuropharmacology
- First book to provide a comprehensive description of signal transduction processes associated with pathogenesis of Alzheimer disease

**DESCRIPTION**

*Neurochemical Aspects of Alzheimer's Disease* provides a clearly written and logically organized and comprehensive overview of molecular aspects of risk factors, pathogenesis, biomarkers, and therapeutic strategies for Alzheimer disease. This monograph will be focused on molecular mechanisms and signal transduction processes associated with the pathogenesis, biomarkers, and therapeutic strategies of AD. This comprehensive and cutting edge information in this monograph may not only help in early detection of AD, but also promote discovery of new drugs to treat this chronic disease. Chapters discuss involvement of neural membrane phospholipids, sphingolipids, and cholesterol-derived lipid mediators, abnormal APP processing, and nucleic acid damage, risk factors, biomarker, and therapeutic strategies of Alzheimer disease. This book is written for neurologists, neuroscientists, neurochemists, neuropharmacologists, and clinicians. Thus, it would attract many researchers who are interested on molecular mechanisms associated with the pathogenesis of age-related neurological disorders.

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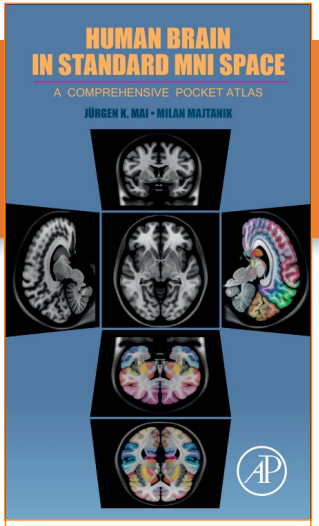


# Human Brain in Standard MNI Space

## *A Comprehensive Pocket Atlas*

***Juergen K. Mai*** Institute of Anatomy I, Heinrich-Heine-University, Düsseldorf, Germany
***Milan Majtanik*** MR-X-Brain GmbH, Düsseldorf, Germany

ELSEVIER

**A pocket-sized reference for the consistent interpretation of MR-images that are registered in the MNI-space**

**KEY FEATURES**

- Provides gyral/sulcal designations (in the MNI figures), as well as cortical (Brodmann's areas) delineations (in the diagrams)
- Contains a three page section with (small) diagrams, providing 3D reconstruction of the MNI brain with definition of the cortex gyri and sulci
- Includes a section that explains the Brodmann areas, along with a list of abbreviations, structures, and a hierarchical tree of structures

**DESCRIPTION**

*Human Brain in Standard MNI Space: A Comprehensive Pocket Atlas* is a thorough pocket atlas designed for easy reference and interpretation of medical and scientific MR-images. It is intended for both early career and advanced medical students, emphasizing anatomy's relationship to radiology, and for residents in radiology and neurology, and those involved in neuroscience research. In addition, the book is ideal for non-specialists interested in issues relating to the brain or the determination of imaging features.

**ISBN:** 978-0-12-811275-5
**PUB DATE:** June 2017
**FORMAT:** Paperback
**PAGES:** c. 312
**TRIM:** 6w x 9h

**AUDIENCE**

Early career researchers in neuroscience and imaging, especially in the field of functional brain mapping, from students to very experienced researchers; medical residents and clinicians in neurology, neuro-oncology, neurosurgery, radiology

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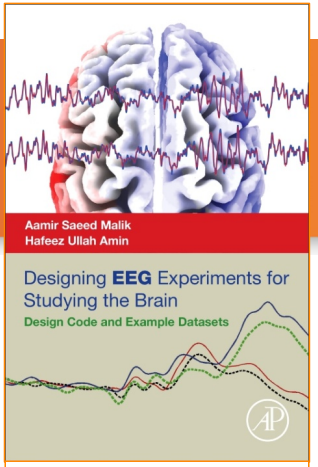


# Designing EEG Experiments for Studying the Brain

## *Design Code and Example Datasets*

***Aamir Saeed Malik*** Dept EE, Universiti Teknologi Petronas, Bandar Seri Iskandar, Perak, Malaysia
***Hafeezullah Amin*** Dept EE, Universiti Teknologi Petronas, Bandar Seri Iskandar, Perak, Malaysia

**A guide to the design and implementation of EEG experiments to study the brain which includes experiment design codes, example datasets, and more**

**ISBN:** 978-0-12-811140-6
**PUB DATE:** June 2017
**FORMAT:** Paperback
**PAGES:** c. 330
**TRIM:** 6w x 9h

**AUDIENCE**

Graduate students in biological and biomedical sciences and engineering, neuroscientists, neurobiologists, biomedical engineers, post-doctoral fellows, researchers

**KEY FEATURES**

- Written to assist neuroscientists in experiment designs using EEG
- Step-by-step approach in designing both clinical and behavioral experiments using EEG
- Chapters are accompanied by experiment design codes and example datasets
- Provides inclusion and exclusion criteria to help correctly identify experiment subjects and minimum number of samples
- Includes appendices providing recruitment forms, ethics forms, and various subjective tests associated with each of the chapters

**DESCRIPTION**

*Designing EEG Experiments for Studying the Brain: Design Code and Example Datasets* details the design of various brain experiments using electroencephalogram (EEG). It is primarily for researchers who want to venture into this field by designing their own experiments as well as those who are excited about neuroscience and want to explore various applications related to the brain. It provides guidelines for designing an EEG experiment. The first chapter describes how to design an EEG experiment and details the various parameters that should be considered for success, while remaining chapters provide experiment design for a number of neurological applications, both clinical and behavioral. As each chapter is accompanied with experiment design codes and example datasets, those interested can quickly design their own experiments or use the current design for their own purposes. Appendices provide various forms for one's experiment including recruitment forms, feedback forms, ethics forms, and recommendations for related hardware equipment and software for data acquisition, processing, and analysis.

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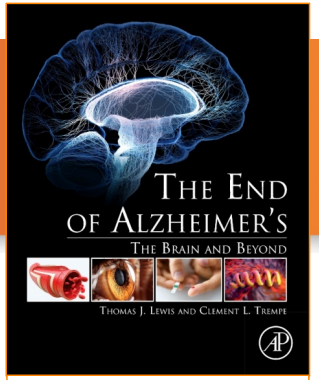


# The End of Alzheimer's, 2e

## *The Brain and Beyond*

***Thomas J. Lewis*** Real Health Systems, USA
***Clement L. Trempe*** Clinical Assistant in Ophthalmology, Harvard Medical School, Boston; Assistant in Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston

**ISBN:** 978-0-12-812112-2
**PUB DATE:** April 2017
**FORMAT:** Paperback
**PAGES:** c. 460
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, neurobiologists, neurophysiologists, neurologists, graduate students, and post-doctoral fellows, medical doctors with specialization in infectious diseases, cardiovascular diseases, ophthalmology, optometry, internal medicine, integrative and functional medical practitioners, and doctors of osteopathy

**A comprehensive overview on the molecular basis of Alzheimer's outside of the brain, providing evidence for new diagnostics and potential avenues for treatment**

**KEY FEATURES**

- Comprehensive literature-based summary of the current state of molecular Alzheimer's disease research
- Details the shortcomings of the prevailing model and therapeutics in development
- Reviews blood-based biomarkers for Alzheimer's and their link to amyloid- and Tau-independent causes outside the brain
- Describes the tissues outside the brain impacted by Alzheimer's and the underlying molecular causes
- Explains the whole-body risks associated with Alzheimer's and concomitant measures to slow or prevent the disease
- Provides a protocol to properly research, evaluate, measure, diagnose, and potentially treat Alzheimer's patients

**DESCRIPTION**

The entire research and treatment approach for Alzheimer's sufferers at present is focused on the brain only, with much of the research, drug development, and emerging treatments focused on the two presumed hallmarks in the brain, amyloid plaques and neurofibrillary tangles. However, there are many examples of Alzheimer's outside the brain including the heart, the eyes, and muscles along with its connection to diabetes. The molecular research into these concepts is captured in some research articles but not in any comprehensive book on Alzheimer's until now.

*The End of Alzheimer's: The Brain and Beyond* is the first comprehensive overview on the molecular basis of Alzheimer's outside of the brain, merging the most recent findings within this field into a single book. It aims to educate the reader on the many aspects of Alzheimer's disease that occur outside the brain but are overlooked. This book uniquely provides step-by-step peer-reviewed evidence that the current research model may be misguided and that a new and emerging model is more accurate. It carefully outlines the molecular research in Alzheimer's outside the brain, and argues that a more thorough, whole-body diagnosis will provide better answers about the causes and lead to new treatments. This book is beneficial to researchers who need to be apprised of the emerging science on the causes of Alzheimer's, and will hopefully redirect many into new avenues of cellular research and discovery.


# Cytoarchitectonic Atlas of the Human Cerebral Cortex

## *In MNI Stereotaxic Space*

***Michael Petrides*** Montreal Neurological Institute and McGill University, Montreal, Canada

**This atlas depicts cellular structure of the human cortex, including arrangement of neuronal cell bodies and relationships between cytoarchitectonic boundaries and anatomical landmarks**

**ISBN:** 978-0-12-800932-1

**PUB DATE:** September 2017

**FORMAT:** Hardback

**PAGES:** c. 200

**TRIM:** 12w x 9h

**AUDIENCE**

Researchers, clinicians and graduate students in neuroanatomy, neuroimaging, cognitive neuroscience, neurology, and neurosurgery

**KEY FEATURES**

- Presents architectonic areas on average MNI brain (rather than a single brain), so individual peculiarities of the surface morphology of any given brain are regularized, thus helping the reader to see the essence of the location of an area
- Features full-page high quality photomicrographs for each cytoarchitectonic area of the cortex, with supplementary zoom images of particular details
- Offers commentary on the relation of sulci and gyri to architectonic areas, which will be useful to those looking to identify the cortical area within which functional or structural changes happened
- Contains section discussing white matter fasciculi that permit connectivity between the cytoarchitectonic areas
- Includes commentary pages on how the relationship to nonhuman primate cortex (macaque monkey) enables links to be made to the primate species in which most of the experimental anatomical and physiological information has been and continues to be gathered

**DESCRIPTION**

*Cytoarchitectonic Atlas of the Human Cerebral Cortex: In MNI Stereotaxic Space* depicts the cellular structure of the human cortex, detailing the arrangement of neuronal cell bodies as well as the relationships between cytoarchitectonic boundaries and anatomical landmarks.

Presentation in MNI Stereotaxic Space enables the atlas to serves as a useful working tool for structural/functional neuroimagers attempting to identify the cytoarchitectonic area within which a functional activation or a structural change has occurred. An introductory section discusses the history and current state of cytoarchitectonic studies, and a separate chapter on methods is also provided. Mapping of the frontal lobe, parietal lobe, insula, temporal lobe, occipital lobe, and white matter fascicule follows.

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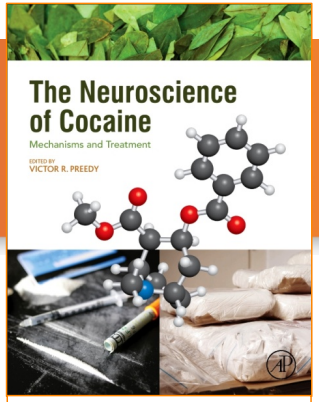



# The Neuroscience of Cocaine

## *Mechanisms and Treatment*

Edited by: ***Victor R. Preedy*** Department of Dietetics, King's College London, UK

**This reference offers the only comprehensive synopsis of the neurobiological and clinical aspects of cocaine dependency and treatment**

**ISBN:** 978-0-12-803750-8

**PUB DATE:** May 2017

**FORMAT:** Hardback

**PAGES:** c. 590

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in neuroscience, pharmacology, psychopathology, and addiction, as well as drug-abuse workers, public-health workers, and physicians treating addiction

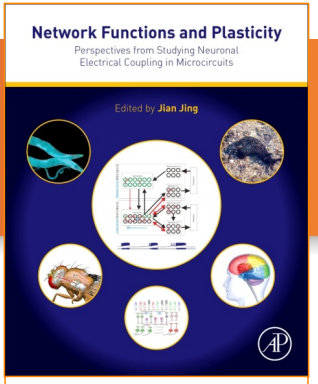
**KEY FEATURES**

- Contains in each chapter an abstract, key facts, mini dictionary of terms, and summary points to aid in understanding
- Illustrated in full color
- Provides unique full coverage of all aspects of cocaine and its related pathology
- Provides researchers with an up-to-date understanding of the mechanisms behind cocaine use, and aids them in deriving new pharmacological compounds and therapeutic regimens to treat dependency and withdrawal symptoms

**DESCRIPTION**

*The Neuroscience of Cocaine: Mechanisms and Treatment* explores the complex effects of this drug, addressing the neurobiology behind cocaine use and the psychosocial and behavioral factors that impact cocaine use and abuse. This book provides researchers with an up-to-date understanding of the mechanisms behind cocaine use, and aids them in deriving new pharmacological compounds and therapeutic regimens to treat dependency and withdrawal symptoms.

Cocaine is one of the most highly abused illicit drugs worldwide and is frequently associated with other forms of drug addiction and misuse, but researchers are still struggling to understand cocaine's neuropharmacological profile and the mechanisms of its effects and manifestations at the cognitive level. Cessation of cocaine use can lead to numerous adverse withdrawal conditions, from the cellular and molecular level to the behavioral level of the individual user. Written by worldwide experts in cocaine addiction, this book assists neuroscientists and other addiction researchers in unraveling the many complex facets of cocaine use and abuse.




# Network Functions and Plasticity

## *Perspectives from Studying Neuronal Electrical Coupling in Microcircuits*

Edited by: ***Jian Jing*** School of Life Sciences, Nanjing University, Jiangsu, China and Department of Neuroscience, Mount Sinai School of Medicine, NY, USA

**This reference covers electrical coupling and gap junctions and their pertinence in the function and plasticity of the brain's electrical network**

**ISBN:** 978-0-12-803471-2

**PUB DATE:** May 2017

**FORMAT:** Hardback

**PAGES:** c. 320

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers, clinicians, post-doctoral fellows, and graduate students in neuroscience, as well as those in biological sciences and psychology

**KEY FEATURES**

- Provides an easy-to-read introduction on neural circuits of the model system
- Focuses on the specific roles of electrical coupling in tractable, well-defined circuits
- Includes recent discoveries and findings that are presented in the context of historical background
- Outlines outstanding issues and future research in the field

**DESCRIPTION**

*Network Functions and Plasticity: Perspectives from Studying Neuronal Electrical Coupling in Microcircuits* focuses on the specific roles of electrical coupling in tractable, well-defined circuits, highlighting current research that offers novel insights for electrical coupling's roles in sensory and motor functions, neural computations, decision-making, regulation of network activity, circuit development, and learning and memory.

Bringing together a diverse group of international experts and their contributions using a variety of approaches to study different invertebrate and vertebrate model systems with a focus on the role of electrical coupling/gap junctions in microcircuits, this book presents a timely contribution for students and researchers alike.

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# Machine Dreaming and Consciousness

***J. F. Pagel*** University of Colorado, School of Medicine, USA
***Philip Kirshtein*** New Market Designs

**ISBN:** 978-0-12-803720-1
**PUB DATE:** May 2017
**FORMAT:** Paperback
**PAGES:** c. 244
**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists and cognitive scientists researching sleep, dreaming, learning/memory, consciousness, cognition, computational cognition, and neural networks of cognition; researchers in neuroscience, psychology, and cognitive science interested in the philosophy of the mind; computer scientists interested in artificial intelligence and artificial consciousness

**The only book available that fully explores the possibility for and implications of dreaming by artificial intelligence (AI) systems**

**KEY FEATURES**

- Addresses the function and role of dream-like processing in AI systems
- Describes the functions of dreaming in the creative process of both humans and machines
- Presents an alternative approach to the philosophy of machine consciousness
- Provides thorough discussion of machine dreaming and consciousness for neuroscientists and other researchers investigating consciousness and cognition

**DESCRIPTION**

*Machine Dreaming and Consciousness* is the first book to discuss the questions raised by the advent of machine dreaming. Artificial intelligence (AI) systems meeting criteria of primary and self-reflexive consciousness are often utilized to extend the human interface, creating waking experiences that resemble the human dream. Surprisingly, AI systems also easily meet all human-based operational criteria for dreaming. These "dreams" are far different from anthropomorphic dreaming, including such processes as fuzzy logic, liquid illogic, and integration instability, all processes that may be necessary in both biologic and artificial systems to extend creative capacity.

Today, multi-linear AI systems are being built to resemble the structural framework of the human central nervous system. The creation of the biologic framework of dreaming (emotions, associative memories, and visual imagery) is well within our technical capacity. AI dreams potentially portend the further development of consciousness in these systems. This focus on AI dreaming raises even larger questions. In many ways, dreaming defines our humanity. What is humanly special about the states of dreaming? And what are we losing when we limit our focus to its technical and biologic structure, and extend the capacity for dreaming into our artificial creations? *Machine Dreaming and Consciousness* provides thorough discussion of these issues for neuroscientists and other researchers investigating consciousness and cognition.

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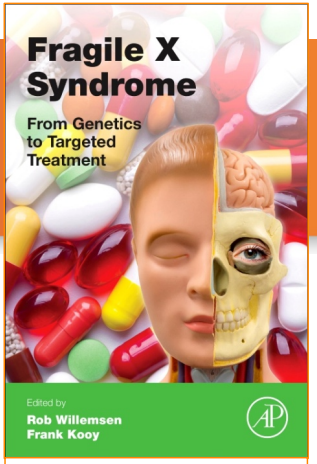


# Fragile X Syndrome

## *From Genetics to Targeted Treatment*

Edited by: ***Rob Willemsen*** Department of Clinical Neurogenetics, Erasmus University Medical Center, Rotterdam, the Netherlands
***Frank Kooy*** Department of Medical Genetics, University of Antwerp, Antwerp, Belgium

**This comprehensive reference examines the molecular and clinical background of Fragile X Syndrome, including clinical trials and treatment options**

**ISBN:** 978-0-12-804461-2
**PUB DATE:** May 2017
**FORMAT:** Hardback
**PAGES:** c. 380
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and clinical practitioners in neuroscience, neurology, pharmacology, genetics and genetic counseling

**KEY FEATURES**

- Provides a comprehensive overview of the molecular genetics, clinical trials, and treatment of Fragile X Syndrome
- Written for academic researchers, pharmaceutical investigators, and clinicians in the field
- Edited by international leaders in the field who have contributed greatly to the study of Fragile X Syndrome
- Directs the reader through complex issues surrounding FXS and draws the literature together for researchers and clinicians

**DESCRIPTION**

*Fragile X Syndrome: From Genetics to Targeted Treatment* provides a structured overview of the molecular and clinical background of the disorder as well as treatment options. The book discusses the detailed molecular information on each of the pathways involved with sufficient details for all whose research touches this pathway. It provides a state-of-the-art update on all clinical aspects associated with this syndrome, including phenotype, diagnostics and epidemiology.

It also includes an overview of the lessons learned from the preclinical research and pioneering trials on the fragile X syndrome for the investigators involved in clinical trials of neurodevelopmental disorders. This book is written for academic researchers, pharmaceutical investigators, and clinicians in the field who work on the disorder, and for researchers involved in clinical trials of the fragile X syndrome or related disorders.

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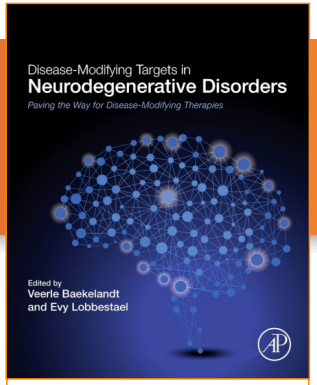


# Disease-Modifying Targets in Neurodegenerative Disorders

## *Paving the Way for Disease-Modifying Therapies*

Edited by: ***Veerle Baekelandt*** Katholieke Universiteit (KU) Leuven, Belgium
***Evy Lobbestael*** Katholieke Universiteit (KU) Leuven, Belgium

**Comprehensive reference on different neurodegenerative disorders, their molecular pathology, and present and future disease-modifying therapies**

**ISBN:** 978-0-12-805120-7

**PUB DATE:** April 2017

**FORMAT:** Hardback

**PAGES:** c. 280

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, graduate and undergraduate students in biological and biomedical sciences, post-doctoral fellows, researchers, neurologists, clinicians

**KEY FEATURES**

- Provides a comprehensive overview of how key proteins in neurodegenerative disorders can be used as targets to modify disease progress
- Summarizes how patients are treated today, providing a glance at future disease management
- Includes intelligible and informative information that is perfect for non-specialists, medical practitioners, and scientists
- Written and peer reviewed by outstanding scientists in their respective fields

**DESCRIPTION**

*Disease-Modifying Targets in Neurodegenerative Disorders: Paving the Way for Disease-Modifying Therapies* examines specific neurodegenerative disorders in comprehensive chapters written by experts in the respective fields. Each chapter contains a summary of the disease management field, subsequently elaborating on the molecular mechanisms and promising new targets for disease-modifying therapies.

This overview is ideal for neuroscientists, biomedical researchers, medical doctors, and caregivers, not only providing readers with a summary of the way patients are treated today, but also offering a glance at the future of neurodegenerative disorder treatment.

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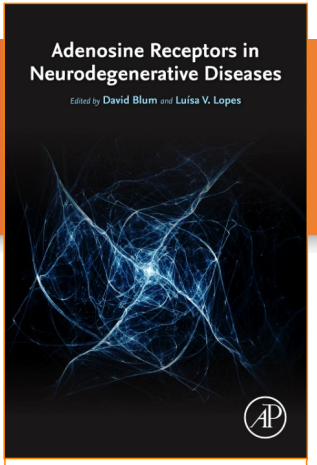


# Adenosine Receptors in Neurodegenerative Diseases

Edited by: ***David Blum*** UMR Inserm U1172, LabEx DISTALZ, Jean-Pierre Aubert Research Centre, Université de Lille, Faculté de Médecine, Lille, France
***Luísa Lopes*** Institute of Molecular Medicine, University of Lisbon, Lisboa, Portugal

## Comprehensive reference that details the function of adenosine receptors in neurodegeneration and translational approaches of adenosine-based therapies

**ISBN:** 978-0-12-803724-9
**PUB DATE:** April 2017
**FORMAT:** Hardback
**PAGES:** c. 280
**TRIM:** 6w x 9h

**AUDIENCE**

Advanced graduate students, researchers, clinicians, and industry scientists in the fields of neurodegeneration, neuroscience, neurology, and neuropharmacology

**KEY FEATURES**

- Comprehensive reference that details adenosine receptors in neurodegenerative disorders, with details on brain function and possible therapeutics
- Gives insights on how these receptors modulate the neurodegenerative outcomes in different disorders
- Edited by two of the leading researchers in the field regarding adenosine role in the brain in aging and neurodegenerative conditions

**DESCRIPTION**

*Adenosine Receptors in Neurodegenerative Diseases* covers the role of adenosine receptors in brain function, also focusing on related methodologies and perspectives in therapeutics. The book provides an up-to-date overview by the best specialists in the field, helping readers consider the importance of adenosine and expand the global impact and visibility of adenosine research in the CNS field.

Chapters include adenosine biology and signaling, gene regulation, control of motor function, and novel adenosine-based therapies in the CNS. It is an ideal resource for researchers, advanced graduate students, clinicians, and industry scientists working in the fields of clinical neuroscience and molecular and cellular neuroscience.

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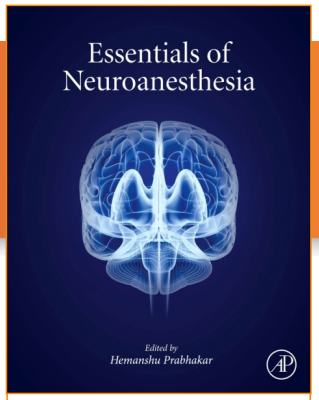



# Essentials of Neuroanesthesia

Edited by: ***Hemanshu Prabhakar*** M.D., Ph.D. Department of Neuroanesthesiology, All India Institute of Medical Sciences (AIIMS), Ansari Nagar East, Gautam Nagar, New Delhi, Delhi, India

**Provides useful insights on anesthesia as related to the neurological sciences, including discussions of anatomy, physiology, and pharmacology**

**ISBN:** 978-0-12-805299-0

**PUB DATE:** May 2017

**FORMAT:** Hardback

**PAGES:** c. 874

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Trainees, clinicians, and researchers in the fields of neurosurgery, neurocritical care, neuroanesthesia and neurology

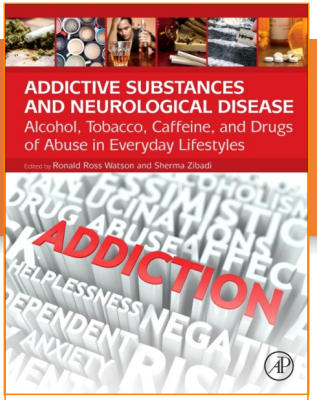
**KEY FEATURES**

- Offers useful insights on the anesthetic management of neurosurgical and neurologic patients
- Discusses related issues, such as palliative care, evidence based practice of neuroanesthesia, sterilization techniques, biostatistics, and ethical issues
- Useful for trainees, clinicians, and researchers in the fields of neurosurgery, neurocritical care, neuroanesthesia, and neurology

**DESCRIPTION**

*Essentials of Neuroanesthesia* offers useful insights on the anesthetic management of neurosurgical and neurologic patients. This book covers all topics related to neuroanesthesia, providing essential knowledge on the brain and spinal cord. Sections include chapters on anatomy, physiology, and pharmacology, along with specific chapters related to various neurosurgical and neurological problems and their anesthetic management.

This book provides an understanding of related issues, such as palliative care, evidence based practice of neuroanesthesia, sterilization techniques, biostatistics, and ethical issues, and is useful for trainees, clinicians, and researchers in the fields of neurosurgery, neurocritical care, neuroanesthesia, and neurology.




# Addictive Substances and Neurological Disease

## *Alcohol, Tobacco, Caffeine, and Drugs of Abuse in Everyday Lifestyles*

Edited by: ***Ronald Ross Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA
***Sherma Zibadi*** Postdoctoral Research Associate of Public Health, Department of Pathology, University of South Florida Medical School, Tampa, USA

**Discusses the neuropathology and neurological consequences of illicit drugs and other substances that are commonly consumed as part of our everyday lifestyles**

**KEY FEATURES**

- Integrates current research on the actions of addictive substances in neurological disease
- Includes functional foods, such as caffeine beverages, that have habituating effects on the brain
- Provides a synopsis of key ideas associated with the consequences of addictive and habituating lifestyle substances

**DESCRIPTION**

*Addictive Substances and Neurological Disease: Alcohol, Tobacco, Caffeine, and Drugs of Abuse in Everyday Lifestyles* is a complete guide to the manifold effects of addictive substances on the brain, providing readers with the latest developing research on how these substances are implicated in neurological development and dysfunction.

Cannabis, cocaine, and other illicit drugs can have substantial negative effects on the structure and functioning of the brain. However, other common habituating and addictive substances often used as part of an individual's lifestyle, i.e., alcohol, tobacco, caffeine, painkillers can also compromise brain health and effect or accentuate neurological disease.

This book provides broad coverage of the effects of addictive substances on the brain, beginning with an overview of how the substances lead to dysfunction before examining each substance in depth. It discusses the pathology of addiction, the structural damage resulting from abuse of various substances, and covers the neurobiological, neurodegenerative, behavioral, and cognitive implications of use across the lifespan, from prenatal exposure, to adolescence and old age.

This book aids researchers seeking an understanding of the neurological changes that these substances induce, and is also extremely useful for those seeking potential treatments and therapies for individuals suffering from chronic abuse of these substances.

**ISBN:** 978-0-12-805373-7
**PUB DATE:** April 2017
**FORMAT:** Hardback
**PAGES:** c. 384
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced graduate students in addiction, neurology, behavioral neuroscience, cognitive neuroscience, neurobiology, translational neuroscience, and neuropsychology, as well as cognitive and behavioral psychology, psychiatry, and medicine

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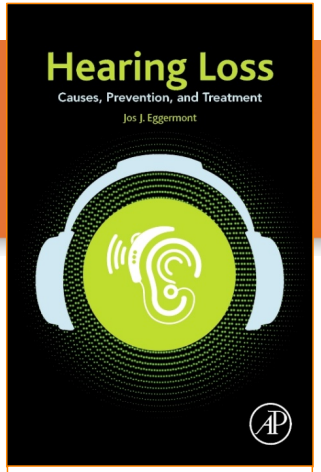



# Hearing Loss

## *Causes, Prevention, and Treatment*

***Jos Eggermont*** Departments of Physiology and Pharmacology, and Psychology, University of Calgary, Canada

**Presents in-depth coverage of hearing loss, causes and prevention, treatments, and future directions of the field**

**ISBN:** 978-0-12-805398-0

**PUB DATE:** April 2017

**FORMAT:** Hardback

**PAGES:** c. 384

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and clinical practitioners such as auditory neuroscientists, audiologists, neurologists, speech pathologists, pediatricians, and geriatricians

**KEY FEATURES**

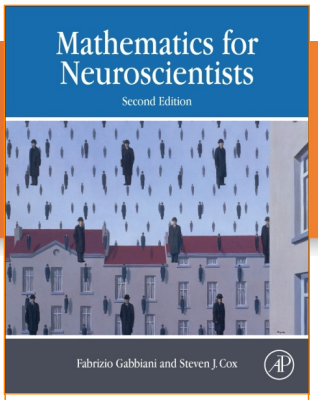
- Presents an in-depth overview of hearing loss, causes and prevention, treatments, and future directions in the field
- Written for researchers and clinicians, such as auditory neuroscientists, audiologists, neurologists, speech pathologists, pediatricians, and geriatricians
- Presents the benefits and problems with hearing aids and cochlear implants
- Includes important quality of life issues

**DESCRIPTION**

*Hearing Loss: Causes, Prevention, and Treatment* covers hearing loss, causes and prevention, treatments, and future directions in the field, also looking at the cognitive problems that can develop.

To avoid the “silent epidemic” of hearing loss, it is necessary to promote early screening, use hearing protection, and change public attitudes toward noise. Successful treatments of hearing loss deal with restoring hearing sensitivity via hearing aids, including cochlear, brainstem, or midbrain implants. Both the technical aspects and effects on the quality of life of these devices are discussed.

The integration of all aspects of hearing, hearing loss, prevention, and treatment make this a perfect one-volume course in audiology at the graduate student level. However, it is also a great reference for established audiologists, ear surgeons, neurologists, and pediatric and geriatric professionals.




# Mathematics for Neuroscientists, 2e

***Fabrizio Gabbiani*** Baylor College of Medicine, Houston, TX, USA
***Steven James Cox*** Computational and Applied Mathematics, Rice University, Houston, TX, USA

**Comprehensive tutorial-reference that introduces the foundational mathematics necessary for contemporary neuroscience research**

Amazon Editorial Reviews for First Edition:
"I really think this book is very, very important. This is precisely what has been missing from the field and is badly needed. " --**Dr. Kevin Franks, research fellow, Richard Axel's laboratory Columbia University, NYC**

"The idea of presenting sufficient maths to understand the theoretical neuroscience, alongside the neuroscience itself, is appealing. The inclusion of Matlab code for all examples and computational figures is an excellent idea. " --**David Corney, research fellow, Institute of Ophthalmology, University College London**

**KEY FEATURES**

- Fully revised material and corrected text
- Additional chapters on extracellular potentials, motion detection and neurovascular coupling
- Revised selection of exercises with solutions
- More than 200 Matlab scripts reproducing the figures as well as a selection of equivalent Python scripts

**DESCRIPTION**

*Mathematics for Neuroscientists, Second Edition,* presents a comprehensive introduction to mathematical and computational methods used in neuroscience to describe and model neural components of the brain from ion channels to single neurons, neural networks and their relation to behavior. The book contains more than 200 figures generated using Matlab code available to the student and scholar. Mathematical concepts are introduced hand in hand with neuroscience, emphasizing the connection between experimental results and theory.

**ISBN:** 978-0-12-801895-8
**PREVIOUS EDITION ISBN:** 9780123748829
**PUB DATE:** March 2017
**FORMAT:** Hardback
**PAGES:** c. 544
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscientists, experimental neuroscientists, computational neuroscientists, mathematicians

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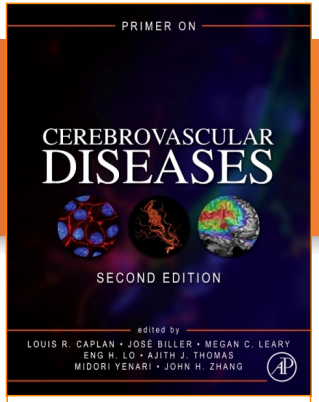


# Primer on Cerebrovascular Diseases, 2e

Edited by: ***Louis R. Caplan*** Neurology, Harvard University, Beth Israel Deaconess Medical Center, Boston, MA, USA
***José Biller*** Neurology, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA
***Megan C. Leary*** Neurology, Lehigh Valley Hospital and Health Network, Allentown, PA, USA
***Eng H Lo*** Harvard Medical School, Massachusetts General Hospital, Charlestown, MA, USA
***Ajith J Thomas*** Beth Israel Deaconess Medical Center, Harvard University, Boston, MA, USA
***Midori Yenari*** Neurology, University of California, San Francisco, San Francisco, CA, USA
***John H. Zhang*** Loma Linda University School of Medicine, Loma Linda, CA, USA

**Handy reference on cerebral blood flow and metabolism, pathogenesis and pathology, medical conditions, diagnostic testing, and management of cerebrovascular diseases**

**ISBN:** 978-0-12-803058-5

**PREVIOUS EDITION ISBN:** 978-0-12-743170-3

**PUB DATE:** March 2017

**FORMAT:** Hardback

**PAGES:** c. 984

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Advanced graduate students, researchers, and clinicians in the fields of neuroscience, neurology, neurosurgery, and pharmacology and physiology

**KEY FEATURES**

- Provides concise chapters on topics in cerebral blood flow and metabolism, pathogenesis of cerebrovascular disorders, diagnostic testing, and management in a comprehensive and accessible format
- Written by international leading authorities on cerebral vasculature
- Provides up-to-date information on practical applications of basic research and the main clinical issues facing the community, such as axonal transport and proteomics

**DESCRIPTION**

*Primer on Cerebrovascular Diseases, Second Edition,* is a handy reference source for scientists, students, and physicians needing reliable, up-to-date information on basic mechanisms, physiology, pathophysiology, and medical issues related to brain vasculature. The book consists of short, specific chapters written by international experts on cerebral vasculature, presenting the information in a comprehensive and easily accessible manner.

Numerous changes have occurred in the field since the publication of the first edition in 1997, particularly our understanding of the genetic aspects of cerebrovascular disease. This updated edition reflects the advances made over the last two decades, not only demonstrating the promise for therapy, but also for a molecular understanding of cerebrovascular diseases. The new edition includes new and expanded topics, including carotid stenting, Iatrogenic causes of stroke, axonal transport and injury, RNAIs, proteomics, and more.

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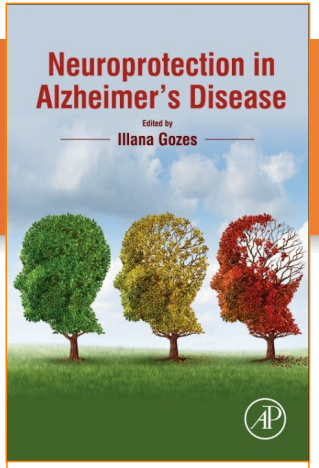


# Neuroprotection in Alzheimer's Disease

Edited by: ***Illana Gozes*** Department of Human Molecular Genetics and Biochemistry, Tel Aviv University, Israel

**Comprehensive reference detailing neuroprotection in Alzheimer's Disease, covering nerve cell protection and new advances in disease management**

**ISBN:** 978-0-12-803690-7

**PUB DATE:** March 2017

**FORMAT:** Hardback

**PAGES:** c. 326

**TRIM:** 6w x 9h

**AUDIENCE**

Advanced graduate students, researchers, and clinicians in the fields of neurodegeneration, neuroscience, neurology, and neuropharmacology

**KEY FEATURES**

- Comprehensive reference detailing neuroprotection in Alzheimer's Disease, with details on nerve cell protection and new advances in disease management
- Combines the knowledge and points-of-view of both medical doctors and basic scientists, putting the subject at the forefront for further clinical development
- Edited by one of the leading researchers in Alzheimer's Disease

**DESCRIPTION**

*Neuroprotection in Alzheimer's Disease* offers a translational point-of-view from both basic and clinical standpoints, putting it on the cusp for further clinical development with its emphasis on nerve cell protection, including the accumulation of knowledge from failed clinical trials and new advances in disease management.

This book brings together the latest findings, both basic, and clinical, under the same cover, making it easy for the reader to obtain a complete overview of the state-of-the-field and beyond. Alzheimer's disease is the most common form of dementia, accounting for 60 to 80 percent of dementia cases. It is a progressive brain disease that slowly destroys memory, thinking skills, and eventually, even the ability to carry out the simplest tasks. It is characterized by death of synapses coupled to death nerve cells and brain degeneration which is manifested by loss of cognitive abilities. Understanding neuroprotection in Alzheimer's disease will pave the path to better disease management and novel therapeutics.

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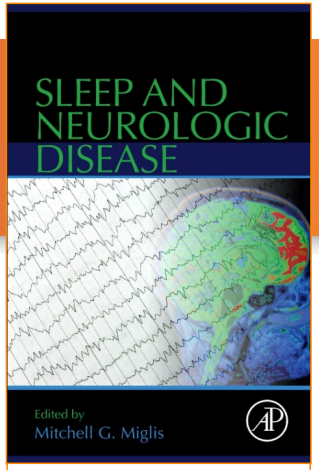


# Sleep and Neurologic Disease

Edited by: ***Mitchell G. Miglis*** Neurology Department, Stanford University School of Medicine, Stanford, CA, USA

**Comprehensive reference detailing how common neurological illnesses impact sleep and the impact of sleep disorders on neurologic disease**

**ISBN:** 978-0-12-804074-4

**PUB DATE:** February 2017

**FORMAT:** Hardback

**PAGES:** c. 258

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

For neurologists, sleep physicians, neuroscientists and epidemiologists studying sleep

**KEY FEATURES**

- Reviews how common neurological illnesses impact sleep and the impact sleep disorders have on neurologic disease
- Up-to-date, comprehensive overview written for practicing neurologists, sleep physicians, neuroscientists, and epidemiologists
- Includes informative discussions on sleep physiology, circadian rhythms, sleep and stroke, and treatment options for neurologists

**DESCRIPTION**

*Sleep and Neurologic Disease* reviews how common neurologic illnesses, such as Parkinson's Disease and Alzheimer's dementia impact sleep. In addition, the book discusses how common primary sleep disorders influence neurologic diseases, such as the relationship between obstructive sleep apnea and stroke, as well as their association with various primary headache disorders and epilepsy syndromes.

The utilization of sleep technology, such as polysomnography, multiple sleep latency testing, actigraphy, laboratory and CSF testing is also covered. The book is written for the practicing neurologist, sleep physician, neuroscientist, and epidemiologist studying sleep.

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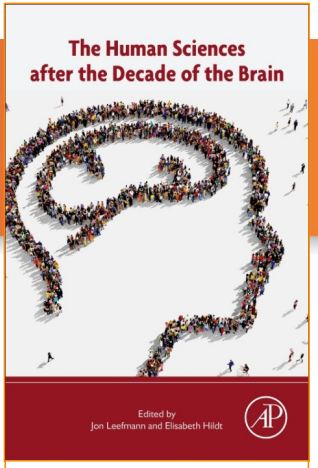


# The Human Sciences after the Decade of the Brain

Edited by: ***Jon Leefmann*** Research Fellow, Research Group on Neuroethics and Neurophilosophy, Department of Philosophy, Johannes Gutenberg–University of Mainz, Germany
***Elisabeth Hildt*** Professor of Philosophy and Director, Center for the Study of Ethics in the Professions, Illinois Institute of Technology, Chicago, USA

**ISBN:** 978-0-12-804205-2
**PUB DATE:** March 2017
**FORMAT:** Paperback
**PAGES:** c. 332
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and advanced students in neuroscience, psychology, and related disciplines interested in the ethical, philosophical, societal, and legal implications of neuroscience; researchers and advanced students from philosophy, sociology, and related disciplines interested in the impact of neuroscience on research in their fields

## An interdisciplinary examination of the influence of the rise of cognitive neuroscience on the social sciences and the current state of research into the mind-brain connection

**KEY FEATURES**

- Explores the recent influence of neurobiology on the humanities and social sciences and how they respond to neuroscience influences
- Offers in-depth analysis of the theoretical and practical influence of a brain-centered scientific view in diverse areas of the social sciences, including economics, education, cultural studies, and philosophy
- Investigates contributions of the history of science
- Scrutinizes current cognitive science–based approaches to social and moral behavior

**DESCRIPTION**

*The Human Sciences after the Decade of the Brain* surveys the mutual interactions between cognitive neuroscience and the social sciences and humanities, also investigating the methodological and conceptual prospects and perils of choosing a neuroscience approach to these disciplines. The book sheds light on a broad range of epistemological, historical, and sociological questions regarding the neuro-turn of the new millennium.

The book's first section focuses on epistemological questions posed by neurobiologically informed approaches to these areas. The second section investigates neuroscience's influence on explanations for social and moral behavior and examines how the biological and psychological conditions set by the brain structures implicated in moral agency set constraints for explanations of individual and social behavior and moral theory.

The final part critically explores the consequences of the neuro-turn in diverse disciplines of the social sciences and humanities and how cognitive neuroscience affects, and is affected by, such fields as economics, marketing, education, and ethical theory. This interdisciplinary investigation will be an informative and fascinating reference for neuroscientists, cognitive scientists, and biological psychologists interested in the philosophical, ethical, legal, and societal influences of, and on, their work.

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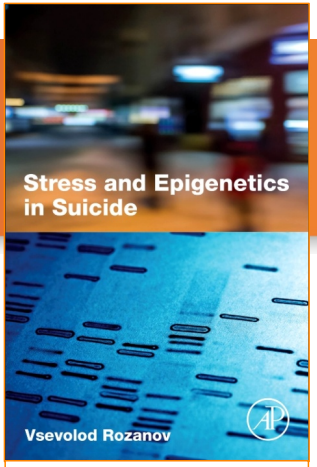


# Stress and Epigenetics in Suicide

***Vsevolod Rozanov*** Professor and Chair, Clinical Psychology, and Director, Centre for Suicide Research and Prevention, Department of Psychology and Social Services, Odessa National Mechnikov University, Ukraine and Researcher and Lecturer, National Suicide Research and Prevention of Mental Ill-Health Centre (NASP), Karolinska Institute, Solna, Sweden

**ISBN:** 978-0-12-805199-3

**PUB DATE:** March 2017

**FORMAT:** Paperback

**PAGES:** c. 222

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and advanced students in neuroendocrinology, neurobiology, behavioral neuroscience, neurology, and neuropsychology; secondary audience is clinicians in psychiatry, psychology, and other mental health practices

## Explores the roles of stress mechanisms and epigenetic factors in suicidal behavior

**KEY FEATURES**

- Explores the neurobiology of stress and stress-related epigenetics, including discussion of the role of stress-induced epigenetic changes in behavioral, emotional, and cognitive mechanisms and whether these epigenetic marks are transgenerational
- Provides compelling biobehavioral models of suicide based on genetics, epigenetics, and behavioral adjustment
- Integrates social, psychological, and existential influences, giving readers a better understanding of the interdisciplinary nature of suicide risk factors
- Presents future directions for suicide-prevention strategies that incorporate recent research on genomics and stress resilience

**DESCRIPTION**

*Stress and Epigenetics in Suicide*discusses the central role of epigenetic modifications in suicidal behavior. As early-life stress and an individual's ability to cope with such stressors, combined with psychological factors, social factors, and existential and cognitive factors can predispose young people to suicidal behavior and put them at added risk of suicidal behavior later in life, this book provides readers with an overview of the neurobiology of stress, an introduction to the epigenetic changes induced by stress, and an understanding of how vulnerability and resilience to stress are built.

It integrates these mechanisms into a biobehavioral model of suicide based on epigenetic marks, gene-environment interactions, and other stressors. More importantly, it provides future direction for research and discusses potential interventions.

This book is an ideal and trusted resource for researchers and clinicians who are interested in learning how the environment can affect behavior through genetics, and for those seeking the development of new methods for suicide prevention.

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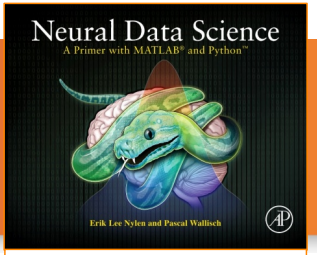


# Neural Data Science

## *A Primer with MATLAB® and Python™*

***Erik Lee Nylen*** New York University, New York, NY, USA
***Pascal Wallisch*** New York University, New York, NY, USA

**ISBN:** 978-0-12-804043-0
**PUB DATE:** February 2017
**FORMAT:** Paperback
**PAGES:** c. 230
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Students, researchers and instructors in Systems, Cognitive and Behavioral Neuroscience, and Cognitive Psychology

**An introduction to the principles of computational neuroscience using a high-level, open-source programming language**

"Making sense of data is emerging as the limiting factor of progress in neuroscience. This book is the accessible way to learn how to do that." **--Konrad Koerding, Professor, Northwestern University**

"This is a fun, hands-on introduction to the important emerging field of neural data science. It's at the intersection of programming, data analysis, and neuroscience -- perfect for aspiring researchers looking to learn these three in parallel. This book will help inspire a new generation to join us in finding out how the brain works with modern computational tools." **--Nikolaus Kriegeskorte, Programme leader, Cognition and Brain Sciences Unit, University of Cambridge**

**KEY FEATURES**

- Utilizing a Rosetta stone approach, including both MATLAB and Python in parallel
- Introducing the canonical data analysis cascade, standardizing the data analysis flow
- Introducing Comment pointers, which improve the readability of code
- Introducing data marning
- Introducing levels of coding principles, which improves the organize of code strategically, tactically and algorithmically
- Implementing a deeply philosophical framework of 0 to 1 teaching

**DESCRIPTION**

MATLAB remains the dominant language for scientific computing and analysis in neuroscience, but a more general purpose option - Python - is emerging. This book addresses the snake in the room by providing a beginner's introduction to the principles of computation and data analysis in neuroscience using both Python and MATLAB, which allows to transcend platform tribalism and enables coding versatility.

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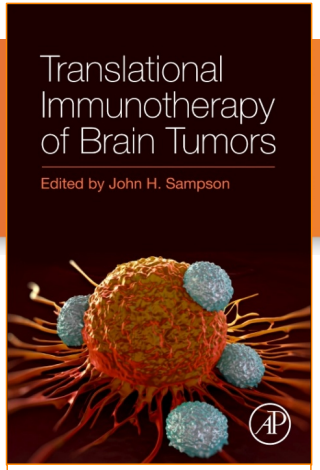


# Translational Immunotherapy of Brain Tumors

Edited by: ***John H. Sampson*** Robert H. and Gloria Wilkins Professor of Neurosurgery, Chair, Department of Neurosurgery, Duke University Medical Center, Durham, NC, USA

**Comprehensive update on cutting-edge treatments and research in basic immunology, translational immunotherapy and clinical trials of malignant gliomas**

**ISBN:** 978-0-12-802420-1

**PUB DATE:** February 2017

**FORMAT:** Hardback

**PAGES:** c. 374

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and practitioners in the fields of neuroscience, neurology, neurooncology, and neurosurgery

**KEY FEATURES**

- Comprehensive overview, providing an update on immunology, translational immunotherapy, and clinical trials relating to malignant gliomas
- Edited by a prominent neurosurgeon with contributions by leading researchers in the field
- Ideal resource for researchers and practitioners interested in learning about mechanisms that use the immune system to treat brain tumors

**DESCRIPTION**

*Translational Immunotherapy of Brain Tumors* gives researchers and practitioners an up-to-date and comprehensive overview of the field. Chapters include adoptive immunotherapy, immunosuppression, CAR therapy of brain tumors, and dendritic cell therapy for brain tumors.

Very few agents have been shown to be efficacious in the treatment of malignant gliomas. Recently, there have been a number of studies demonstrating the potential success of immunotherapy for brain tumors. Immunotherapeutics are becoming the most frequent drugs to be used in cancer therapy. These new breakthroughs, now approved by the FDA, are a part of multiple phase III international trials and ongoing research in malignant glioma, meaning that the information in this cutting-edge book will be of great importance to practitioners and researchers alike.

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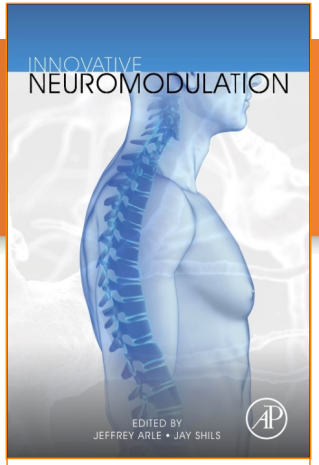


# Innovative Neuromodulation

Edited by: ***Jeffrey E. Arle*** Associate Professor of Neurosurgery, Harvard Medical School, Boston, MA, USA
***Jay L. Shils*** Rush University Medical Center, Director of Intraoperative Neurophysiological Monitoring; Associate Professor, Rush University Medical Center in the Department of Anesthesiology, Chicago, IL, USA

## Extensive reference on clinical neuromodulation and both its current and future surgical and therapeutic applications

**ISBN:** 978-0-12-800454-8
**PUB DATE:** February 2017
**FORMAT:** Hardback
**PAGES:** c. 308
**TRIM:** 6w x 9h

**AUDIENCE**
Neurosurgeons, neurophysiologists, neurologists, anesthesiologists, and interventional neuroradiologists

**KEY FEATURES**

- Presents a comprehensive reference on the emerging field of neuromodulation that features chapters from leading physicians and researchers in the field
- Provides commentary for perspectives on different technologies and interventions to heal and improve neurological deficits
- Contains 300 full-color pages that begin with an overview of the clinical phases involved in neuromodulation, the challenges facing therapies and intraoperative procedures, and innovative solutions for better patient care

**DESCRIPTION**

*Innovative Neuromodulation* serves as an extensive reference that includes a basic introduction to the relevant aspects of clinical neuromodulation that is followed by an in-depth discussion of the innovative surgical and therapeutic applications that currently exist or are in development.

This information is critical for neurosurgeons, neurophysiologists, bioengineers, and other proceduralists, providing a clear presentation of the frontiers of this exciting and medically important area of physiology. As neuromodulation remains an exciting and rapidly advancing field—appealing to many disciplines—the editors' initial work (*Essential Neuromodulation,* 2011) is well complemented by this companion volume.

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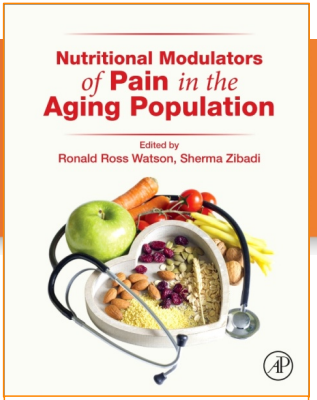


# Nutritional Modulators of Pain in the Aging Population

Edited by: ***Ronald Ross Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA
***Sherma Zibadi*** Postdoctoral Research Associate of Public Health, Department of Pathology, University of South Florida Medical School, Tampa, USA

**Provides an overview on the role of foods, dietary supplements, obesity, and nutrients to prevent and ameliorate pain in the aging population**

**ISBN:** 978-0-12-805186-3
**PUB DATE:** February 2017
**FORMAT:** Hardback
**PAGES:** c. 375
**TRIM:** 8.5w x 10.875h

**AUDIENCE**
Researchers and clinical practitioners in neurology, pain, geriatrics, and food and nutrition

**KEY FEATURES**

- Presents a comprehensive overview that details the role of nutrition in pain management for the aging population
- Written for researchers and clinicians in neurology, pain, and food and nutrition
- Reviews the pain symptoms and role of food and/or exercise associated with each disease

**DESCRIPTION**

*Nutritional Modulators of Pain in the Aging Population* provides an overview on the role of foods, dietary supplements, obesity, and nutrients in the prevention and amelioration of pain in various diseases in the aging population. Headaches, fibromyalgia, joint pain, arthritis pain, back pain, and stomach pain are discussed. In addition, the potential health risks of using foods to reduce symptoms is evaluated.

Each chapter reviews pain causing conditions before reviewing the role of food or exercise. Both researchers and physicians will learn about dietary approaches that may benefit or harm people with various types of pain. Chapters include current research on the actions of nutrients in pain treatment, the effects of lifestyle and exercise on pain management, and discussions of dietary supplements that provide pain relief from chronic conditions like arthritis.

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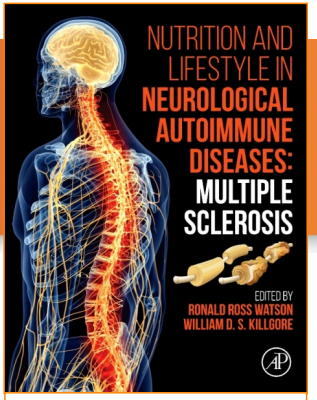


# Nutrition and Lifestyle in Neurological Autoimmune Diseases

## *Multiple Sclerosis*

Edited by: ***Ronald Ross Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA
***William D. S. Killgore*** Department of Psychiatry, School of Medicine, University of Arizona, Tucson, AZ, USA

**Provides an overview on the types and efficacy of nutritional and lifestyle responses to symptoms and reoccurrence of MS**

**ISBN:** 978-0-12-805298-3
**PUB DATE:** February 2017
**FORMAT:** Hardback
**PAGES:** c. 298
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and clinical practitioners in neurology, neuroscience, and exercise and nutrition

**KEY FEATURES**

- Presents a comprehensive overview that details the role of nutrition and exercise in Multiple Sclerosis
- Written for researchers and clinicians in neurology, neuroscience, and exercise and nutrition
- Defines a new approach that focuses on foods, dietary supplements, exercise, behavior, and lifestyle in health promotion and symptoms management for MS

**DESCRIPTION**

*Nutrition and Lifestyle in Neurological Autoimmune Diseases: Multiple Sclerosis* discusses important discoveries relating to the types of, and efficacy of, nutritional and lifestyle responses to symptoms and reoccurrence of MS. Each chapter defines a new approach to use in foods, dietary supplements, exercise, behavior, and/or lifestyle in health promotion and symptoms management for MS.

This book presents the role of non-pharmaceutical approaches and is essential reading for neurologists, physicians, nurses, nutritionists, dietitians, healthcare professionals, research scientists, biochemists, and general practitioners.

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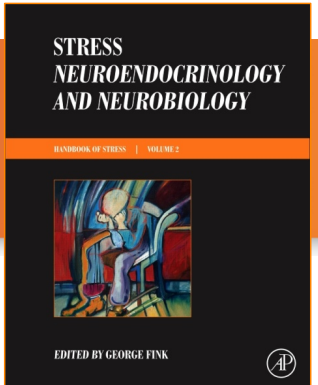


# Stress: Neuroendocrinology and Neurobiology

## *Handbook of Stress Series, Volume 2*

Edited by: ***George Fink*** Professorial Research Fellow and Hon Professor, Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, VIC, Australia

**A series of references on stress, the second of which focuses on the relationship between the brain and its governing hormones**

**KEY FEATURES**

- Includes chapters that offer impressive scope with topics addressing the neuroendocrinology and endocrinology of stress
- Presents articles carefully selected by eminent stress researchers and prepared by contributors that represent outstanding scholarship in the field
- Richly illustrated, with explanatory figures and tables

**DESCRIPTION**

*Stress: Neuroendocrinology and Neurobiology: Handbook of Stress Series, Volume 2,* focuses on neuroendocrinology, the discipline that deals with the way that the brain controls hormonal secretion, and in turn, the way that hormones control the brain. There have been significant advances in our understanding of neuroendocrine molecular and epigenetic mechanisms, especially in the way in which stress-induced hormonal and neurochemical changes affect brain plasticity, neuronal connectivity, and synaptic function.

The book features the topic of epigenetics, and how it enables stress and other external factors to affect genetic transmission and expression without changes in DNA sequence. Integrated closely with new behavioral findings and relevance to human disorders, the concepts and data in this volume offer the reader cutting-edge information on the neuroendocrinology of stress.

Volume 2 is of prime interest to neuroscientists, clinicians, researchers, academics, and graduate students in neuroendocrinology, neuroscience, biomedicine, endocrinology, psychology, psychiatry, and in some areas of the social sciences, including stress and its management in the workplace.

**ISBN:** 978-0-12-802175-0
**PUB DATE:** January 2017
**FORMAT:** Hardback
**PAGES:** c. 446
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscientists, neuroendocrinologists, neurologists, neuropharmacologists, and researchers, graduate students and post-doctoral fellows in neuroscience, psychology and the biomedical sciences

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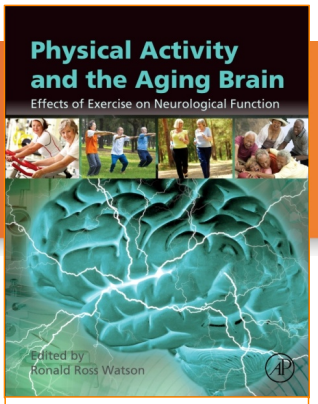


# Physical Activity and the Aging Brain

## *Effects of Exercise on Neurological Function*

Edited by: ***Ronald Ross Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA

**Explores the impact of exercise on the brain, neurological concerns mitigated by exercise, and other aging-related factors that impact physical activity**

**ISBN:** 978-0-12-805094-1

**PUB DATE:** January 2017

**FORMAT:** Hardback

**PAGES:** c. 222

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in cognitive neuroscience, behavioral neuroscience, neurology, neurobiology, translational neuroscience, and neuropsychology, as well as psychology, exercise physiology, and gerontology

**KEY FEATURES**

- Presents research scientists with a complete understanding of the role of exercise in healthy brain aging
- Considers the roles of nutrition, the mind-body connection, and other lifestyle factors
- Presents a major resource for exercise and physical activity in the neurological health of older adults
- Provides a synopsis of key ideas associated with the many aspects of physical activity, along with lifestyle factors that can modify neurological diseases and age-related neurological decline

**DESCRIPTION**

*Physical Activity and the Aging Brain: Effects of Exercise on Neurological Function* is a complete guide to the manifold effects of exercise and physical activity on the aging brain. Cognitive decline and motor impairment, onset of diseases and disorders, and even changes in family structure and social settings that occur as we age can all impact activity levels, yet continued physical activity is crucial for successful neurological functioning.

This book examines the role that exercise and physical activity play in halting or modulating the deleterious effects of these numerous aging concerns by first examining the current state of research into how exercise manifests physical changes in the brain. It then discuss how physical activity combines with other lifestyle factors to benefit the aging brain, including nutrition, computerized brain training, and social engagement. Most significantly, it also covers how physical activity can serve as therapy to help alleviate the symptoms of various neurological diseases impacting aging populations, with particular emphasis on Alzheimer's disease and age-related cognitive decline.

The book provides broad coverage of the effects of exercise and physical activity on the aging brain, its therapeutic effects, and the many factors that influence the aging process.

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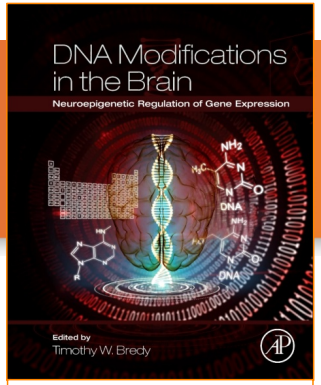


# DNA Modifications in the Brain

## *Neuroepigenetic Regulation of Gene Expression*

Edited by: ***Timothy W Bredy*** Department of Neurobiology and Behavior, University of California, Irvine, USA

**A comprehensive reference on the role of the epigenome in gene expression and brain function in both normal and diseased states**

**ISBN:** 978-0-12-801596-4

**PUB DATE:** January 2017

**FORMAT:** Paperback

**PAGES:** c. 168

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Graduate students and post-doctoral fellows in neuroscience and the biomedical sciences; researchers and clinicians

**KEY FEATURES**

- Provides a comprehensive overview of the many facets of DNA modifications
- Discusses the impact of this dynamic epigenetic mechanism across brain development and lifespan at behavioral, cognitive, molecular and genetic levels
- Contains contributions by influential leaders in the field
- Edited by a Neuroscientist to further promote synthesis between epigenetics, neuroscience, and clinical relevance

**DESCRIPTION**

*DNA Modifications in the Brain: Neuroepigenetic Regulation of Gene Expression* begins with an historical overview of the early discoveries surrounding DNA methylation in the mammalian brain and then explores the evidence supporting a role for this epigenetic mechanism in controlling gene expression programs across the lifespan in both normal and diseased states.

Chapters describe new directions and technological advances, and provide an overview of what the future holds for this exciting new field. This book is ideal for medical, graduate and advanced undergraduate students, but is also a great resource for researchers who need a broad introduction to the dynamic nature of DNA that sheds light on evolving concepts of gene-environment interaction and their effects on adaptation and neuropsychiatric disease.


# Parkinson's Disease

## *Molecular Mechanisms Underlying Pathology*

Edited by: ***Patrik Verstreken*** VIB Center for the Biology of Disease, KU Leuven, Center for Human Genetics, Laboratory of Neuronal Communication, Leuven, Belgium

**A comprehensive reference on the molecular mechanisms underlying pathology in Parkinson's, and the pathways involved in this neurodegenerative disease**

**ISBN:** 978-0-12-803783-6

**PUB DATE:** January 2017

**FORMAT:** Hardback

**PAGES:** c. 310

**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, grad students in biological and biomedical sciences, postdocs, academic/biotech researchers

**KEY FEATURES**

- Written by experts in the field that focus on pathways and mechanisms implicated in Parkinson's pathology
- Draws parallels between multidisciplinary discoveries in different model organisms using an array of technologies
- Provides a cross-methodology and cross-species approach to understanding the molecular biology of Parkinson's disease
- Includes approximately 25 color Illustrations and diagrams to explain concepts and models
- Focuses on key pathways and mechanisms (as opposed to model organism or gene) to provide a multidisciplinary approach to Parkinson's disease

**DESCRIPTION**

*Parkinson's Disease: Molecular Mechanisms Underlying Pathology* explores the molecular pathways at the basis of the cellular defects connected to Parkinson's disease, the second most common neurodegenerative disease, and the most common movement disorder. This book presents the latest research on the pathways and mechanisms that have been discovered to play a role in Parkinson's pathology.

This focus on mechanisms rather than individual genes allows the contributors to elaborate on overlapping and joint functions of different causative genes. Readers will find descriptions of model systems that present parallels (and differences) between discoveries in different species, demonstrating the importance of multidisciplinary research that spans a broad array of technologies and model organisms.

Written from both a cross-methodology and cross-species perspective, the book provides readers with the current state of knowledge on the molecular biology of Parkinson's.

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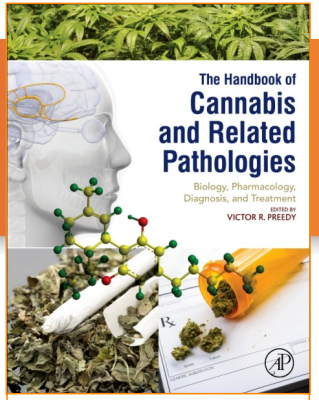


# Handbook of Cannabis and Related Pathologies

## *Biology, Pharmacology, Diagnosis, and Treatment*

Edited by: ***Victor R. Preedy*** Department of Dietetics, King's College London, UK

**ISBN:** 978-0-12-800756-3

**PUB DATE:** January 2017

**FORMAT:** Hardback

**PAGES:** c. 1142

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in neuroscience, pharmacology, psychopathology, and addiction, as well as drug-abuse workers, public-health workers, and physicians treating addiction

**The only comprehensive, interdisciplinary synopsis of the effects of cannabis use and misuse on the health of individuals and communities**

**KEY FEATURES**

- Comprehensive chapters include an abstract, key facts, mini dictionary of terms, and summary points
- Presents illustrations with at least six figures, tables, and diagrams per chapter
- Provides a one-stop-shopping synopsis of everything to do with cannabis and its related pathology, from chemicals and cells, individuals and communities, and diagnosis and treatment
- Offers an integrated and informed synopsis of the complex issues surrounding cannabis as a substance, its use, and its misuse

**DESCRIPTION**

*Handbook of Cannabis and Related Pathologies: Biology, Pharmacology, Diagnosis, and Treatment* is the first book to take an interdisciplinary approach to the understanding of cannabis use and misuse. Recent worldwide trends toward decriminalizing marijuana for medical use have increased legal use of the drug and recreational use remains high, making cannabis one of the most commonly used drugs.

Cannabis has a wide range of adverse neurological effects, and use and abuse can lead to physical, social, and psychopathological issues that are multifarious and complex. Effective understanding and treatment requires knowledge of the drug's effects from across scientific disciplines.

This book provides an overview of the biological and pharmacological components of the cannabis plant, outlines its neurological, social, and psychopathological effects, assists in the diagnosis and screening for use and dependency, and aids researchers in developing effective treatments for cannabis-related issues and disorders.

Fully illustrated, with contributions from internationally recognized experts, it is the go-to resource for neuroscientists, pharmacologists, pathologists, public-health workers, and any other researcher who needs an in-depth and cross-disciplinary understanding of cannabis and its effects.

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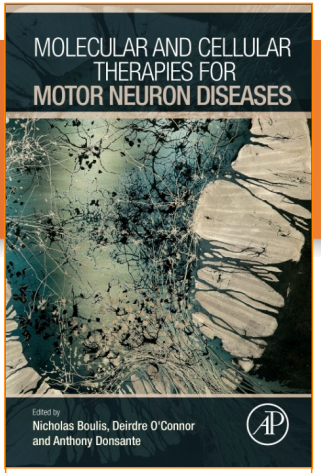


# Molecular and Cellular Therapies for Motor Neuron Diseases

Edited by: ***Nicholas M Boulis*** Department of Neurosurgery, Emory University, Atlanta, GA, USA
***Deirdre O'Connor*** Department of Neurosurgery, Emory University, Atlanta, GA, USA
***Anthony Donsante*** Department of Neurosurgery, Emory University, Atlanta, GA, USA

**A comprehensive overview of gene and cell therapies for ALS and SMA that have been developed and translated into clinical use**

**KEY FEATURES**

- Provides an overview of gene and cell therapies for amyotrophic lateral sclerosis (ALS) and other motor neuron diseases
- Edited by a leading Neurosurgeon and two research scientists to promote synthesis between basic neuroscience and clinical relevance
- Presents a great resource for researchers and practitioners in neuroscience, neurology, and gene and cell therapy

**DESCRIPTION**

*Molecular and Cellular Therapies for Motor Neuron Diseases* discusses the basics of the diseases, also covering advances in research and clinical trials. The book provides a resource for students that will help them learn the basics in a detailed manner that is required for scientists and clinicians.

Users will find a comprehensive overview of the background of Amyotrophic Lateral Sclerosis (ALS/Lou Gehrig's Disease) and Spinal Muscular Atrophy (SMA), along with the current understanding of their genetics and mechanisms. In addition, the book details gene and cell therapies that have been developed and their translation to clinical trials.

**ISBN:** 978-0-12-802257-3
**PUB DATE:** January 2017
**FORMAT:** Hardback
**PAGES:** c. 318
**TRIM:** 6w x 9h

**AUDIENCE**

Advanced graduate students, researchers, and clinicians in the fields of neuroscience, neurology, and gene and cell therapy

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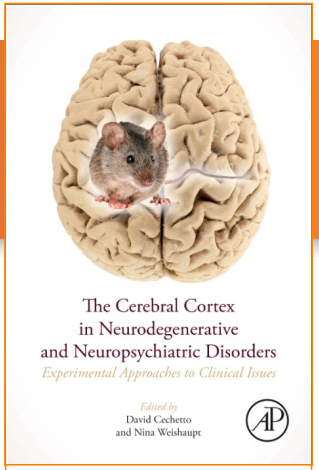



# The Cerebral Cortex in Neurodegenerative and Neuropsychiatric Disorders

## *Experimental Approaches to Clinical Issues*

Edited by: ***David F. Cechetto*** University of Western Ontario, Canada
***Nina Weishaupt*** University of Western Ontario, Canada

**This reference on the cerebral cortex as it pertains to neurological and neuropsychiatric disease focuses on preclinical investigations**

**ISBN:** 978-0-12-801942-9
**PUB DATE:** October 2016
**FORMAT:** Paperback
**PAGES:** c. 320
**TRIM:** 6w x 9h

**AUDIENCE**

Graduate students, postdoctoral fellows & early career researchers in the neurosciences and the biological/biomedical sciences

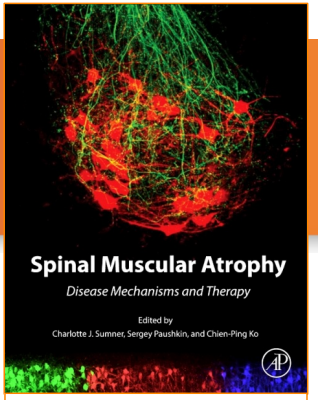
**KEY FEATURES**

- Offers a comprehensive overview on the best available in vivo and in vitro models to study cortical involvement
- Presents models and specific techniques that help to guide investigators in their choices on how to address research questions experimentally
- Provides expert commentary and a perspective on future trends at the end of each chapter
- Addresses translational advances and promising therapeutic options
- Includes references to key articles for additional detailed study

**DESCRIPTION**

*The Cerebral Cortex in Neurodegenerative and Neuropsychiatric Disorders: Experimental Approaches to Clinical Issues* focuses on how pre-clinical investigations are addressing the clinical issues surrounding the involvement of the cerebral cortex in selected conditions of the nervous system, including Alzheimer's Disease, Parkinson's, addiction, and cardiovascular dysregulation.

Each chapter is written by an expert in his/her field who provides a comprehensive review of the clinical manifestations of cortical involvement and experimental techniques currently available to tackle cortical issues in disease. Thus, this present title provides a link between cortical clinical problems and investigational approaches to help foster future research with high translational value.




# Spinal Muscular Atrophy

## *Disease Mechanisms and Therapy*

Edited by: ***Charlotte J Sumner*** Neurology and Neuroscience, Johns Hopkins University School of Medicine, USA
***Sergey Paushkin*** Research, Spinal Muscular Atrophy (SMA) Foundation, USA
***Chien-Ping Ko*** Neurobiology, Department of Biological Sciences, University of Southern California, USA

**A comprehensive reference on the entire spinal muscular atrophy field, including disease mechanisms, pathology, standards of care, and therapeutic development**

**ISBN:** 978-0-12-803685-3
**PUB DATE:** November 2016
**FORMAT:** Hardback
**PAGES:** c. 474
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscientists, biomedical researchers, grad students, postdocs, academic/biotech researchers, clinicians

**KEY FEATURES**

- Provides comprehensive, up-to-date reviews by leading investigators on diverse topics of SMA, including clinical features and patient care, SMN genetics and protein functions, animal models, disease pathology and mechanisms, biomarkers, current therapeutic development, and the role of non-profit organizations in therapeutic development
- Written to bridge multiple disciplines and promote better communications among basic scientists, clinical researchers, and health care providers on the latest developments in SMA
- Includes outstanding questions and perspectives for future investigations and key references for additional detailed study

**DESCRIPTION**

*Spinal Muscular Atrophy: Disease Mechanisms and Therapy* provides the latest information on a condition that is characterized by motoneuron loss and muscle atrophy, and is the leading genetic cause of infant mortality. Since the identification of the gene responsible for SMA in 1995, there have been important advances in the basic understanding of disease mechanisms, and in therapeutic development.

This book provides a comprehensive accounting of recent advances in basic and clinical research that covers SMA clinical features and standards of care, multifaceted aspects of SMN protein functions and SMA disease pathology, various animal models, and biomarkers, as well as current therapeutic development.

This title is ideal for graduate students/postdocs and principal investigators who are already in the SMA field and need to keep updated on recent findings and approaches, and for those who are new to, or would like to join, the field. Likewise, users will find an excellent source of reading for biotech/pharma scientists, clinical researchers, and practitioners, regulators, and patients and their advocacy organizations. Furthermore, this book is a handy reference for researchers and clinicians who may want to apply the research strategies and therapeutic approaches in SMA to other rare diseases.

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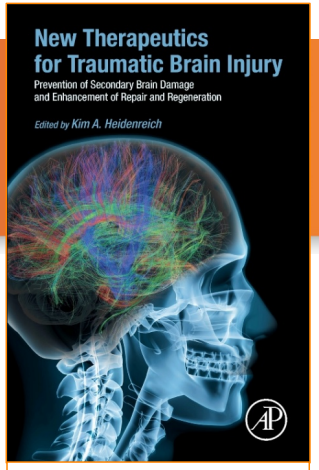


# New Therapeutics for Traumatic Brain Injury

## *Prevention of Secondary Brain Damage and Enhancement of Repair and Regeneration*

Edited by: ***Kim Heidenreich*** University of Colorado Denver School of Medicine, Aurora, Colorado, USA

**A comprehensive overview of basic approaches and development of new therapies aimed at limiting brain damage and improving outcomes associated with TBI**

**ISBN:** 978-0-12-802686-1

**PUB DATE:** October 2016

**FORMAT:** Hardback

**PAGES:** c. 326

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and practitioners in the fields of neurology, translational neuroscience, and pharmacology

**KEY FEATURES**

- Comprehensive overview of basic approaches and translational development of new therapies for TBI
- Edited by a prominent TBI researcher that includes contributions by leading global researchers in the field
- Presents a great resource for researchers and practitioners to learn more about the many evolving preclinical studies and clinical trials currently underway, and the challenges of bringing translational studies in TBI to the clinic

**DESCRIPTION**

*New Therapeutics for Traumatic Brain Injury: Prevention of Secondary Brain Damage and Enhancement of Repair and Regeneration* explores traumatic brain injury (TBI), a major cause of death and disability throughout the world. The delayed nature of the secondary injury phase suggests that there is a therapeutic window for pharmacological interventions or other approaches to prevent progressive tissue damage and improve functional outcomes. It is now apparent that therapeutic interventions should entail both protective and repair/regeneration strategies depending on the phase of brain injury.

This book describes emerging experimental strategies for the treatment of TBI, including new anti-inflammatory or anti-apoptotic therapeutics that limit brain damage, and novel or repurposed drugs that enhance repair or regeneration of the brain after injury.

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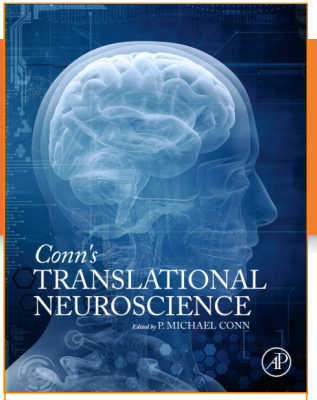


# Conn's Translational Neuroscience

Edited by: ***P. Michael Conn*** Robert C. Kimbrough, III, MD, Professor of Medical Education, Texas Tech University Health Sciences Center, Lubbock, TX, USA

**ISBN:** 978-0-12-802381-5

**PUB DATE:** October 2016

**FORMAT:** Hardback

**PAGES:** c. 762

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers, students, and practitioners in the fields of neurology and neuroscience

**A comprehensive overview of the field of translational neuroscience, this seminal reference alternates scientific and clinical chapters to explain the basic science underlying neurological processes and their relation to disorders and treatment**

**KEY FEATURES**

- Provides a fully up-to-date and readily accessible guide to brain functions at the cellular and molecular level, while also clearly demonstrating their emerging diagnostic and therapeutic importance
- Features contributions from leading global basic and clinical investigators in the field
- Provides a great resource for researchers and practitioners interested in the basic science underlying neurological processes
- Relates and translates the current science to the understanding of neurological disorders and their treatment

**DESCRIPTION**

*Conn's Translational Neuroscience* provides a comprehensive overview reflecting the depth and breadth of the field of translational neuroscience, with input from a distinguished panel of basic and clinical investigators. Progress has continued in understanding the brain at the molecular, anatomic, and physiological levels in the years following the 'Decade of the Brain,' with the results providing insight into the underlying basis of many neurological disease processes.

This book alternates scientific and clinical chapters that explain the basic science underlying neurological processes and then relates that science to the understanding of neurological disorders and their treatment. Chapters cover disorders of the spinal cord, neuronal migration, the autonomic nervous system, the limbic system, ocular motility, and the basal ganglia, as well as demyelinating disorders, stroke, dementia and abnormalities of cognition, congenital chromosomal and genetic abnormalities, Parkinson's disease, nerve trauma, peripheral neuropathy, aphasias, sleep disorders, and myasthenia gravis.

In addition to concise summaries of the most recent biochemical, physiological, anatomical, and behavioral advances, the chapters summarize current findings on neuronal gene expression and protein synthesis at the molecular level. Authoritative and comprehensive, *Conn's Translational Neuroscience* provides a fully up-to-date and readily accessible guide to brain functions at the cellular and molecular level, as well as a clear demonstration of their emerging diagnostic and therapeutic importance.

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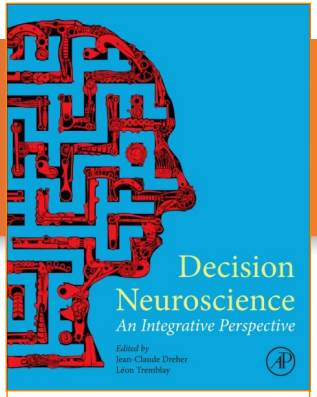



# Decision Neuroscience

## *An Integrative Perspective*

Edited by: ***Jean-Claude Dreher*** Institut des Sciences Cognitives, Lyon, France
***Leon Tremblay*** Institut des Sciences Cognitives, Lyon, France

**Provides a comprehensive framework for understanding the neuroscience of decision-making processes.**

**ISBN:** 978-0-12-805308-9

**PUB DATE:** October 2016

**FORMAT:** Hardback

**PAGES:** c. 422

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Established researchers, undergraduate and graduate students in cognitive neuroscience, behavioral neuroscience, neurobiology, neuroeconomics, cognitive psychology, neuropsychology, systems neuroscience, model-based neuroimaging, computational neuroscience, probabilistic models of decision making.

**KEY FEATURES**

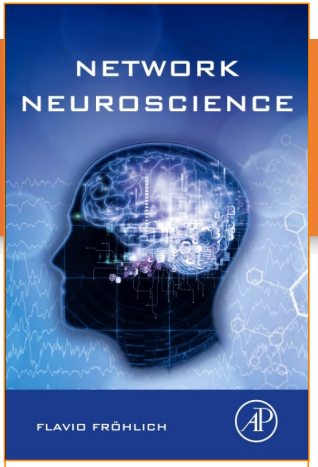
- Provides comprehensive coverage of approaches to studying individual and social decision neuroscience, including primate neurophysiology, brain imaging in healthy humans and in various disorders, and genetic and hormonal influences on decision making
- Covers multiple levels of analysis, from molecular 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

**DESCRIPTION**

*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 neurcomputational 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/leptine) 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.




# Network Neuroscience

***Flavio Frohlich*** Department of Psychiatry, School of Medicine, University of North Carolina, Chapel Hill, NC, USA

**Requiring no prerequisites beyond basic biology and math, this unique tutorial offers a comprehensive introduction to the study of neural networks and features both experimental and theoretical coverage of the various methods employed in studying network activity**

**ISBN:** 978-0-12-801560-5

**PUB DATE:** September 2016

**FORMAT:** Paperback

**PAGES:** c. 464

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and graduate students in neuroscience, biomedical engineering, biology, psychology, neurology, and psychiatry who are interested in network neuroscience.

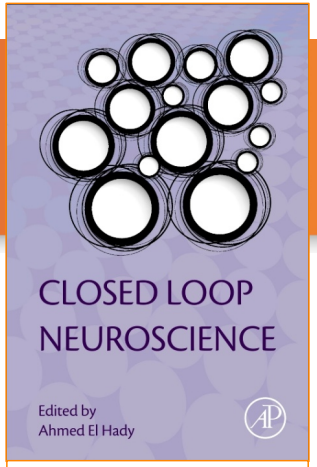
**KEY FEATURES**

- Easy-to-read, comprehensive introduction to the emerging field of network neuroscience
- Includes 27 chapters packed with information on topics from single neurons to complex network disorders such as depression and autism
- Features 12 toolboxes serve as primers to provide essential background knowledge in the fields of biology, mathematics, engineering, and physics

**DESCRIPTION**

Studying brain networks has become a truly interdisciplinary endeavor, attracting students and seasoned researchers alike from a wide variety of academic backgrounds. What has been lacking is an introductory textbook that brings together the different fields and provides a gentle introduction to the major concepts and findings in the emerging field of network neuroscience. *Network Neuroscience* is a one-stop-shop that is of equal use to the neurobiologist, who is interested in understanding the quantitative methods employed in network neuroscience, and to the physicist or engineer, who is interested in neuroscience applications of mathematical and engineering tools. The book spans 27 chapters that cover everything from individual cells all the way to complex network disorders such as depression and autism spectrum disorders. An additional 12 toolboxes provide the necessary background for making network neuroscience accessible independent of the reader's background.

Dr. Flavio Frohlich (www.networkneuroscientist.org) wrote this book based on his experience of mentoring dozens of trainees in the Frohlich Lab, from undergraduate students to senior researchers. The Frohlich lab (www.frohlichlab.org) pursues a unique and integrated vision that combines computer simulations, animal model studies, human studies, and clinical trials with the goal of developing novel brain stimulation treatments for psychiatric disorders. The book is based on a course he teaches at UNC that has attracted trainees from many different departments, including neuroscience, biomedical engineering, psychology, cell biology, physiology, neurology, and psychiatry. Dr. Frohlich has consistently received rave reviews for his teaching. With this book he hopes to make his integrated view of neuroscience available to trainees and researchers on a global scale. His goal is to make the book the training manual for the next generation of (network) neuroscientists, who will be fusing biology, engineering, and medicine to unravel the big questions about the brain and to revolutionize psychiatry and neurology.




# Closed Loop Neuroscience

***Ahmed El Hady*** Princeton Neuroscience Institute, Princeton University, Princeton, NJ, USA

**As the first volume to cover all the major technical aspects of closed loop neurophysiology, this book presents areas of implementation from cellular and network neurophysiology, through sensory and motor systems, and then in clinical therapeutic devices**

**ISBN:** 978-0-12-802452-2

**PUB DATE:** September 2016

**FORMAT:** Hardback

**PAGES:** c. 288

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscience researchers across the various subdisciplines

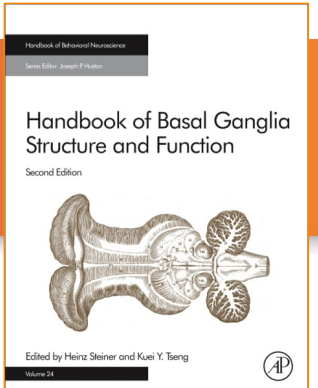
**KEY FEATURES**

- Presents the first volume to offer researchers a comprehensive overview of the technical realities of employing closed loop techniques in their work
- Offers application to in-vitro, in-vivo, and hybrid systems
- Contains an emphasis on the actual techniques used rather than on specific results obtained
- Includes exhaustive protocols and descriptions of software and hardware, making it easy for readers to implement the proposed methodologies
- Encompasses the clinical/neuroprosthetic aspect and how these systems can also be used to contribute to our understanding of basic neurophysiology
- Edited work with chapters authored by leaders in the field from around the globe – the broadest, most expert coverage available

**DESCRIPTION**

*Closed Loop Neuroscience* addresses the technical aspects of closed loop neurophysiology, presenting the implementation of these approaches spanning several domains of neuroscience, from cellular and network neurophysiology, through sensory and motor systems, and then clinical therapeutic devices.

Although closed-loop approaches have long been a part of the neuroscientific toolbox, these techniques are only now gaining popularity in research and clinical applications. As there is not yet a comprehensive methods book addressing the topic as a whole, this volume fills that gap, presenting state-of-the-art approaches and the technical advancements that enable their application to different scientific problems in neuroscience.




# Handbook of Basal Ganglia Structure and Function, Vol 24, 2e

Edited by: ***Heinz Steiner*** Dept. of Cellular and Molecular Pharmacology, Rosalind Franklin University of Medicine and Science, The Chicago Medical School, USA
***Kuei Y. Tseng*** Dept. of Cellular and Molecular Pharmacology, Rosalind Franklin University of Medicine and Science, The Chicago Medical School, USA

**As a comprehensive overview of the structural and functional aspects of the basal ganglia, with an emphasis on clinical relevance, this updated book contains ten entirely new chapters that offer expanded coverage of anatomy and physiology, recent advances in cellular/molecular and cellular/physiological mechanisms, and critical, deeper insights into the behavioral and clinical aspects of basal ganglia function and dysfunction**

A Volume in the Handbook of Behavioral Neuroscience Series.

**ISBN:** 978-0-12-802206-1
**PREVIOUS EDITION ISBN:** 978-0-12-374767-9
**PUB DATE:** November 2016
**FORMAT:** Hardback
**PAGES:** c. 1012
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscience researchers in need of an overview of recent advances regarding the basal ganglia, neuroscience clinicians seeking information on the pathophysiology and associated diseases, and neuroscience graduate students looking for basic information on structure and function

**KEY FEATURES**

- Synthesizes widely dispersed information on the behavioral neurobiology of the basal ganglia, including advances in the understanding of anatomy, cellular/molecular and cellular/physiological mechanisms, and behavioral and clinical aspects of function and dysfunction
- Written by international authors who are preeminent researchers in the field
- Explores, in full, the clinically relevant impact of the basal ganglia on various psychiatric and neurological diseases

**DESCRIPTION**

*Handbook of Basal Ganglia Structure and Function, Second Edition,* offers an integrated overview of the structural and functional aspects of the basal ganglia, highlighting clinical relevance. The basal ganglia, a group of forebrain nuclei interconnected with the cerebral cortex, thalamus, and brainstem, are involved in numerous brain functions, such as motor control and learning, sensorimotor integration, reward, and cognition.

These nuclei are essential for normal brain function and behavior, and their importance is further emphasized by the numerous and diverse disorders associated with basal ganglia dysfunction, including Parkinson's disease, Tourette's syndrome, Huntington's disease, obsessive-compulsive disorder, dystonia, and psychostimulant addiction.

This updated edition has been thoroughly revised to provide the most up-to-date account of this critical brain structure. Edited and authored by internationally acclaimed basal ganglia researchers, the new edition contains ten entirely new chapters that offer expanded coverage of anatomy and physiology, detailed accounts of recent advances in cellular/molecular mechanisms and cellular/physiological mechanisms, and critical, deeper insights into the behavioral and clinical aspects of basal ganglia function and dysfunction.

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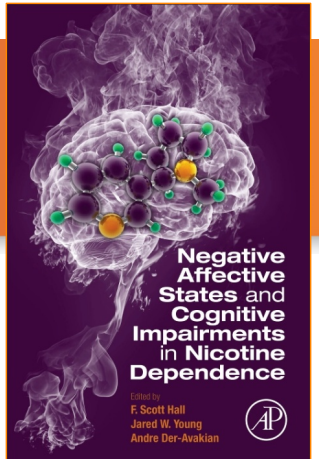


# Negative Affective States and Cognitive Impairments in Nicotine Dependence

Edited by: ***F. Scott Hall*** Department of Pharmacology, College of Pharmacy and Pharmaceutical Sciences, The University of Toledo, MD, USA
***Jared W. Young*** Department of Psychiatry, University of California, San Diego, USA
***Andre Der-Avakian*** Department of Psychiatry, School of Medicine, University of California, San Diego, USA

**As the first resource of its kind to examine the negative reinforcement mechanisms and psychiatric comorbidities associated with nicotine use and abuse, this book addresses these negative reinforcement mechanisms and presents animal models researchers can utilize to examine these dysfunctions' biological bases**

**ISBN:** 978-0-12-802574-1
**PUB DATE:** September 2016
**FORMAT:** Hardback
**PAGES:** c. 342
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers, clinicians, graduate students, and health professionals in cognitive neuroscience, behavioral neuroscience, pharmacology, psychopathology, and addiction

**KEY FEATURES**

- Provides a unique perspective on nicotine dependence that emphasizes negative reinforcement rather than positive reinforcement
- Examines psychiatric comorbidities and alleviation of withdrawal states as motivation for continued tobacco use
- Includes both clinical and preclinical perspectives
- Includes genetic and multi-neurotransmitter perspectives on nicotine use and withdrawal
- Emphasizes heterogeneity of underlying reasons for smoking, the need for multiple animal models to understand this heterogeneity, and the expectation of heterogeneous responses to potential treatments, underscoring the need for personalized therapeutics

**DESCRIPTION**

*Negative Affective States and Cognitive Impairments in Nicotine Dependence* is the only book of its kind that addresses nicotine use and abuse in the context of negative reinforcement mechanisms. Written and edited by leading investigators in addiction, affective, genetic, and cognitive research, it provides researchers and advanced students with an overview of the clinical bases of these effects, allowing them to fully understand the various underlying dysfunctions that drive nicotine use in different individuals. In addition, this book examines animal models that researchers have utilized to investigate the biological bases of these dysfunctions.

The combination of clinical and preclinical approaches to understanding nicotine dependence makes this book an invaluable resource for researchers and practitioners seeking to develop targeted treatments aimed at ameliorating symptoms of nicotine dependence, as well as identifying premorbid differences in affective or cognitive function.

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# Rationality

## *Constraints and Contexts*

Edited by: ***Tzu-Wei Hung*** Assistant Research Fellow, Institute of European and American Studies, Academia Sinica
***Timothy Joseph Lane*** Philosophy of Mind Chair at Taipei Medical University (TMU), Dean of TMU's College of Humanities and Social Sciences, and Director of TMU-Shuang Ho Hospital's Brain and Consciousness Research Center

**Informed by what was learned in recent decades, this eye-opening book sketches a nuanced view of rationality, both human and non-human**

**KEY FEATURES**

- Addresses recent challenges and Identifies a direction for future research on rationality
- Investigates the relationship between rationality and mental disorders, such as delusion and depression
- Assesses reasoning in artificial intelligence and nonhuman animals
- Reflects on ancient Chinese Philosophy and possible cultural differences in human psychology
- Employs philosophical reflection, along with linguistic, probabilistic, and logical techniques

**DESCRIPTION**

*Rationality: Contexts and Constraints* is an interdisciplinary reappraisal of the nature of rationality. In method, it is pluralistic, drawing upon the analytic approaches of philosophy, linguistics, neuroscience, and more. These methods guide exploration of the intersection between traditional scholarship and cutting-edge philosophical or scientific research. In this way, the book contributes to development of a suitably revised, comprehensive understanding of rationality, one that befits the 21st century, one that is adequately informed by recent investigations of science, pathology, non-human thought, emotion, and even enigmatic Chinese texts that might previously have seemed to be expressions of irrationalism.

**ISBN:** 978-0-12-804600-5
**PUB DATE:** September 2016
**FORMAT:** Hardback
**PAGES:** c. 284
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and students who work in cognitive science, psychology, philosophy, and linguistics

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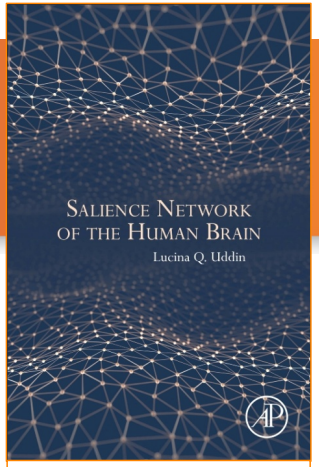


# Salience Network of the Human Brain

***Lucina Q. Uddin*** Brain Connectivity and Cognition Laboratory, University of Miami, FL, USA

**This thought-provoking book focuses on the multiple sources of stimuli that compete for our attention, providing interesting discussions of how the relative salience—importance or prominence—of each of these inputs determines which ones we choose to focus on for more in-depth processing**

**ISBN:** 978-0-12-804593-0

**PUB DATE:** August 2016

**FORMAT:** Paperback

**PAGES:** c. 34

**TRIM:** 6w x 9h

**AUDIENCE**

Advanced students and researchers studying cognitive neuroscience, behavioral neuroscience, cognitive science, and social neuroscience, as well as researchers and clinicians specializing in disorders of cognition

**KEY FEATURES**

- Presents the only publication available that summarizes our understanding of the salience network in one resource
- Authored by a leading research on this important aspect of attention
- Focuses on the multiple sources of stimuli that compete for our attention, providing interesting discussions on how the relative salience—importance or prominence—of each of these inputs determines which ones we choose to focus on for more in-depth processing

**DESCRIPTION**

*Salience Network of the Human Brain* focuses on the multiple sources of stimuli that compete for our attention, providing interesting discussions on how the relative salience—importance or prominence—of each of these inputs determines which ones we choose to focus on for more in-depth processing.

The salience network is a collection of regions of the brain that select which stimuli are deserving of our attention. The network has key nodes in the insular cortex and is critical for detecting behaviorally relevant stimuli and for coordinating the brain's neural resources in response to these stimuli. The insular cortex is a complex and multipurpose structure that plays a role in numerous cognitive functions related to perception, emotion, and interpersonal experience—and the failure of this network to function properly can lead to numerous neuropsychiatric disorders, including autism spectrum disorder, psychosis, and dementia.

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# Modulation of Sleep by Obesity, Diabetes, Age, and Diet

Edited by: ***Ronald Ross Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA

**ISBN:** 978-0-12-810307-4

**PUB DATE:** August 2016

**FORMAT:** Paperback

**PAGES:** c. 390

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in sleep science, neurology, neuroscience and nutrition

## Much needed reference to foster understanding of the role of age, diet, obesity, and disease on sleep architecture and circadian biology

"...I would recommend this book to clinicians, scholars, and researchers interested in learning more about sleep and sleep disorders. Score: 80 - 3 Stars" --**Doody's**

**KEY FEATURES**

- Aids in understanding the impact of age, diet, obesity and disease on sleep
- Offers focus on neurological changes that affect metabolism
- Explores diabetes induced sleep problems
- Aid to understanding the multifactorial causes of age-related sleep dysfunction
- Addresses selected studies of nutraceuticals affecting sleep for potential application clinically
- Discusses major impact on sleep disorders by caffeine and alcohol

**DESCRIPTION**

Sleep disorder is a rampant problem in the US, with over 40 million Americans currently diagnosed according to the NIH. There is a clear association between sleep disorder and a wide range of other human disorders –performance deficiencies, psychiatric illnesses, heart disease, obesity and more – but in spite of this there is not yet a convenient overview on the market detailing the impact of obesity, age, diabetes and diet on sleep duration and attendant health outcomes. This volume focuses on the interaction between sleep and these factors, with special attention being paid to the potential for neurological modulation of sleep via diet. The volume aid readers in understanding the role each of these factors plays in sleep architecture and its regulation by circadian biology and neurology.

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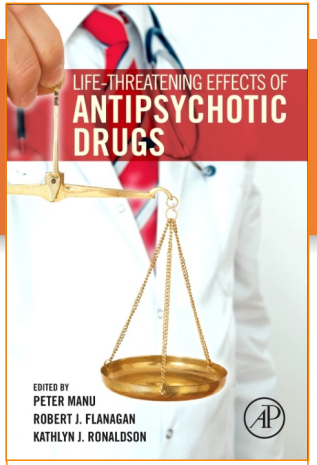


# Life-Threatening Effects of Antipsychotic Drugs

Edited by: ***Peter Manu*** Hofstra Northwell School of Medicine and Albert Einstein College of Medicine, New York, NY, USA
***Robert James Flanagan*** King's College Hospital, London, UK
***Kathlyn Ronaldson*** Monash University, Melbourne, Australia

**ISBN:** 978-0-12-803376-0
**PUB DATE:** August 2016
**FORMAT:** Hardback
**PAGES:** c. 372
**TRIM:** 6w x 9h

**AUDIENCE**

Psychiatrists, general and emergency physicians, pathologists, and mental health pharmacists

**This book is an essential reference text for psychiatrists, pathologists and any physician treating a psychiatric patient with a life-threatening condition. It would also be useful to primary care physicians with patients taking antipsychotic medication.**

**KEY FEATURES**

- Covers cardiovascular, neurological, muscular, hematological, gastrointestinal, autonomic and metabolic effects
- Gives advice on risk factors, confounding diagnoses and measures to minimise seriousness
- Discusses clozapine rechallenge after each of its serious adverse reactions
- Makes suggestions for optimum management of somatic disease in those with severe mental illness, to improve life-expectancy
- Includes data on post-mortem considerations

**DESCRIPTION**

*Life-Threatening Effects of Antipsychotic Drugs* describes in detail more than 20 life-threatening effects associated with antipsychotics, presents the best available data on their incidence and case fatality, and gives comprehensive advice on diagnosis, management and preventive strategies. In addition, the book discusses the benefit of antipsychotic medication in a range of therapeutic indications, and demonstrates the gain in life-expectancy associated with clozapine use in severe mental illness despite its serious, potentially life-threatening adverse effects.

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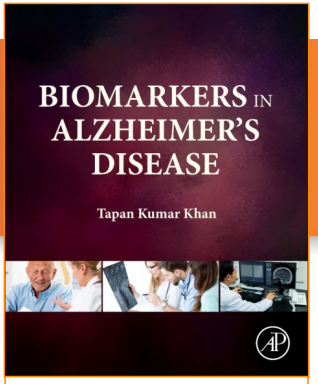


# Biomarkers in Alzheimer's Disease

***Tapan Khan*** Blanchette Rockefeller Neurosciences Institute, Morgantown WV, USA

**A comprehensive overview of all modalities of Alzheimer's disease biomarkers, including neuroimaging, cerebrospinal fluid, genomic, and peripheral systems**

**ISBN:** 978-0-12-804832-0

**PUB DATE:** August 2016

**FORMAT:** Hardback

**PAGES:** c. 264

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers and clinical practitioners in neurology, general neuroscience, molecular neuroscience, and psychiatry

**KEY FEATURES**

- Presents a comprehensive overview detailing all modalities of Alzheimer's disease biomarkers
- Written for neuroscience researchers and clinicians studying or treating patients with Alzheimer's Disease
- Integrates, in each chapter, the molecular/cellular abnormality due to Alzheimer's disease and the technological advancement of biomarkers techniques

**DESCRIPTION**

*Biomarkers in Alzheimer's Disease* provides a comprehensive overview of all modalities of Alzheimer's disease biomarkers, including neuroimaging, cerebrospinal fluid, genomic, and peripheral systems. Each chapter integrates molecular/cellular abnormality due to Alzheimer's disease and technological advancement of biomarkers techniques.

The book is ideal for clinical neuroscience and molecular/cellular neuroscience researchers, psychiatrists, and allied healthcare practitioners involved in the diagnosis and management of patients with cognitive impairment and Alzheimer's disease, and for differential diagnosis of Alzheimer's disease with other non-Alzheimer's dementia.

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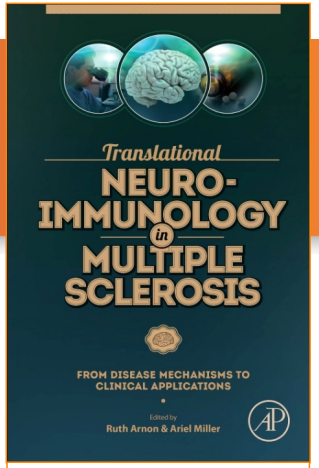


# Translational Neuroimmunology in Multiple Sclerosis

## *From Disease Mechanisms to Clinical Applications*

Edited by: ***Ruth Arnon*** Department of Immunology, Weizmann Institute of Science, Rehovot, Israel
***Ariel Miller*** Neuroimmunology & Translational Genetics Center, Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

**This all-compassing resource provides an overview of recent findings and new knowledge in the neuroimmunology of multiple sclerosis and the translation of this research to immunotherapy treatment, also including neuroprotective strategies, stem cells, and repair promotion**

**ISBN:** 978-0-12-801914-6
**PUB DATE:** August 2016
**FORMAT:** Hardback
**PAGES:** c. 488
**TRIM:** 6w x 9h

**AUDIENCE**

Basic and clinical scientists and practitioners in neuroscience, neurology, immunology, and pharmacology

**KEY FEATURES**

- Provides an overview of recent findings and knowledge of the neuroimmunology of multiple sclerosis and the translation of this research to immunotherapy treatment
- Edited by renowned leaders in the field of neuroimmunology and multiple sclerosis
- Contains the latest resource material for basic and clinical scientists and practitioners in neuroscience, neurology, immunology, and pharmacology

**DESCRIPTION**

Multiple sclerosis (MS) is the most common disabling neurological disease of young adults. More than 2.3 million people are affected by MS worldwide. Symptoms can vary widely, depending on the localization and amount of the damage induced by combined inflammatory, demyelinating, and neurodegenerative processes. Although a cure for MS does not currently exist, therapies can help treat MS attacks, attenuate disease activity, reduce progress of the disease, and manage symptoms.

*Translational Neuroimmunology in Multiple Sclerosis* provides an overview of recent findings and knowledge of the neuroimmunology of multiple sclerosis, from experimental models and the human disease to the translation of this research to immunotherapeutic strategies. Chapters describe genetic and environmental factors underlying the disease pathogenesis of MS as a basis for development of immunotherapies, immunological markers of disease activity, pharmacogenetics, and responses to therapy. Immunomodulatory therapies currently in practice and future therapeutic strategies on the horizon—such as neuroprotective strategies, stem cells, and repair promotion—are discussed. Contributed by renowned leaders in the field, this cross-disciplinary volume is a great resource for basic scientists and clinical practitioners in neuroscience, neurology, immunology, pharmacology, and in-drug development.

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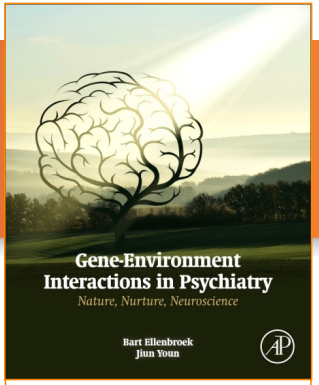


# Gene-Environment Interactions in Psychiatry

## *Nature, Nurture, Neuroscience*

***Bart Ellenbroek*** School of Psychology, Victoria University of Wellington
***Ji Un Youn*** Victoria University of Wellington

**A comprehensive reference on the role gene-environment interactions play in psychiatric disorders and normal development**

**ISBN:** 978-0-12-801657-2
**PUB DATE:** August 2016
**FORMAT:** Paperback
**PAGES:** c. 356
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, psychologists, and graduate students and post-doctoral fellows in neuroscience, psychology, and the biomedical sciences

**KEY FEATURES**

- Written to provide in-depth basic knowledge on gene–environment interactions for graduate students, postgraduate students, clinicians, and scientists
- Includes descriptions of the major psychiatric disorders
- Provides detailed descriptions of animal models and basic genetic information
- Presents well-illustrated color figures to explain complex features in a simple manner

**DESCRIPTION**

*Gene-Environment Interactions in Psychiatry: Nature, Nurture, Neuroscience* begins with the basic aspects of gene–environment studies, such as basic genetics, principles of animals modeling, and the basic processes of how environmental factors affect brain and behavior, with part two describing the most important psychiatric disorders in detail.

Each chapter has a similar structure that includes a general description of the disorder that is followed by an analysis of the role of genes and how they are affected by environmental factors. Each chapter ends with a description of the most relevant animal models, again focusing on gene–environment interactions.

The book concludes with a critical evaluation of the current research and an outlook for the (possible) future, offering a vignette into the fascinating world of nature, nurture, and neuroscience.

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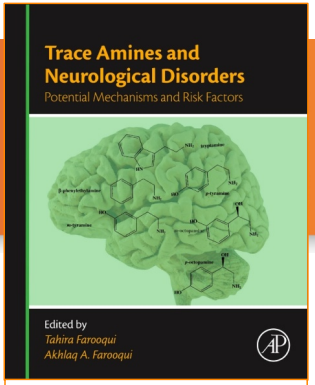


# Trace Amines and Neurological Disorders

## *Potential Mechanisms and Risk Factors*

Edited by: ***Tahira Farooqui*** The Ohio State University, Columbus, OH, USA
***Akhlaq A. Farooqui*** The Ohio State University, Columbus, OH, USA

**This comprehensive overview of the molecular mechanisms that underlie trace amines-mediated neurological diseases presents cutting-edge information users can deploy in their research to help develop new drugs to treat these chronic diseases**

**ISBN:** 978-0-12-803603-7
**PUB DATE:** August 2016
**FORMAT:** Hardback
**PAGES:** c. 402
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Practitioners and researchers in the fields of neuroscience, neurology, neuropharmacology, and neurochemistry

**KEY FEATURES**

- Focuses on recent findings on trace amines, providing insights into the functional significance, molecular mechanisms, and biological relevance of TAARS in neurological disorders
- Edited work with chapters authored by leaders in the field from around the globe, the broadest, most expert coverage available
- Provides cutting-edge research on trace amines-mediated signaling in vertebrate model systems

**DESCRIPTION**

*Trace Amines and Neurological Disorders: Potential Mechanisms and Risk Factors* explores trace amines which, under normal conditions, are present in the mammalian brain and peripheral nervous tissues at very low (nanomolar) concentrations. However, in a diverse array of human pathologies ranging from substance abuse, depression, attention deficit hyperactivity disorder, eating disorders, schizophrenia, and other neurological and neuropsychiatric diseases, the levels of trace amines are unusually high with an imbalance in their functions.

Furthermore, the rapid turnover of trace amines is evidenced by their dramatic increases following treatment with monoamine oxidase inhibitors (MAOI) or deletion of the MAO genes. This suggests that the concentration of trace amines may be considerably higher at neuronal synapses than predicted by steady-state measures, implicating some pathophysiological role. Therefore, understanding molecular mechanisms and developing selective agonists and antagonists for trace amine-associated receptors (TAARs) has become a good approach for treating these diseases.

Although the effects of trace amines at low physiological concentrations in mammalian species have been difficult to demonstrate, they may serve to maintain the neuronal activity of other monoamine neurotransmitters by possessing postsynaptic modulatory effects, particularly dopamine and serotonin, within defined physiological limits. Such an effect of trace amines makes them ideal candidates for the development of novel therapeutics for a wide range of human disorders. This book presents up-to-date, cutting-edge, and comprehensive information on the link between trace amines and neurological disorders.

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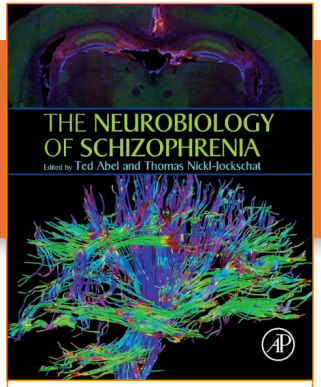


# The Neurobiology of Schizophrenia

Edited by: ***Ted Abel*** University of Pennsylvania, Philadelphia, PA, USA
***Thomas Nickl-Jockschat*** RWTH Aachen University Hospital, Aachen, Germany

**Edited by a translational researcher and a psychiatrist to promote synthesis between basic neuroscience and clinical relevance, this text offers a comprehensive overview of the neurobiological aspects of schizophrenia by examining the disorder at behavioral, cognitive, clinical, electrophysiological, molecular, and genetic levels**

**ISBN:** 978-0-12-801829-3
**PUB DATE:** July 2016
**FORMAT:** Hardback
**PAGES:** c. 448
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers, clinicians, and students in neuroscience, neurology, psychiatry and psychology

**KEY FEATURES**

- Provides a comprehensive overview of neurobiological aspects of schizophrenia
- Discusses schizophrenia at behavioral, cognitive, clinical, electrophysiological, molecular, and genetic levels
- Edited by a translational researcher and a psychiatrist to promote synthesis between basic neuroscience and clinical relevance
- Elucidates connections between the various systems depicted, when possible

**DESCRIPTION**

*The Neurobiology of Schizophrenia* begins with an overview of the various facets and levels of schizophrenia pathophysiology, ranging systematically from its genetic basis over changes in neurochemistry and electrophysiology to a systemic neural circuits level. When possible, the editors point out connections between the various systems. The editors also depict methods and research strategies used in the respective field. The individual backgrounds of the two editors promote a synthesis between basic neuroscience and clinical relevance.

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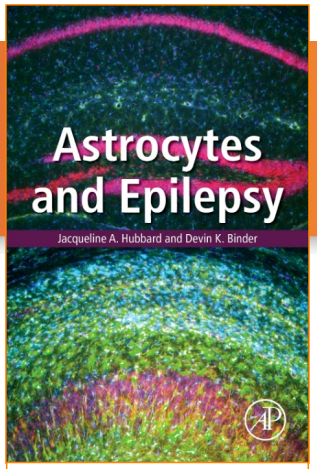


# Astrocytes and Epilepsy

***Jacqueline Hubbard*** Center for Glial-Neuronal Interactions, Division of Biomedical Sciences, School of Medicine, University of California, Riverside, CA, USA
***Devin K. Binder*** Center for Glial-Neuronal Interactions, Division of Biomedical Sciences, School of Medicine, University of California, Riverside, CA, USA

**This book provides a comprehensive overview on the field of astrocyte biology and its role in epileptic brain tissue and potential as a therapeutic target, including sections on gap junctions, calcium signaling, and inflammation**

**ISBN:** 978-0-12-802401-0
**PUB DATE:** July 2016
**FORMAT:** Hardback
**PAGES:** c. 382
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Advanced graduate students, researchers, and clinicians in the fields of neuroscience, neurology, and epilepsy

**KEY FEATURES**

- Presents the first comprehensive book to synthesize historical and recent research on astrocytes and epilepsy into one coherent volume
- Provides a great resource on the field of astrocyte biology and astrocyte-neuron interactions
- Details potential therapeutic targets, including chapters on gap junctions, water and potassium channels, glutamate and adenosine metabolism, and inflammation

**DESCRIPTION**

Epilepsy is a devastating group of neurological disorders characterized by periodic and unpredictable seizure activity in the brain. There is a critical need for new drugs and approaches given than at least one-third of all epilepsy patients are not made free of seizures by existing medications and become "medically refractory". Much of epilepsy research has focused on neuronal therapeutic targets, but current antiepileptic drugs often cause severe cognitive, developmental, and behavioral side effects. Recent findings indicate a critical contribution of astrocytes, star-shaped glial cells in the brain, to neuronal and network excitability and seizure activity. Furthermore, many important cellular and molecular changes occur in astrocytes in epileptic tissue in both humans and animal models of epilepsy. The goal of *Astrocytes and Epilepsy* is to comprehensively review exciting findings linking changes in astrocytes to functional changes responsible for epilepsy for the first time in book format. These insights into astrocyte contribution to seizure susceptibility indicate that astrocytes may represent an important new therapeutic target in the control of epilepsy.

*Astrocytes and Epilepsy* includes background explanatory text on astrocyte morphology and physiology, epilepsy models and syndromes, and evidence from both human tissue studies and animal models linking functional changes in astrocytes to epilepsy. Beautifully labelled diagrams are presented and relevant figures from the literature are reproduced to elucidate key findings and concepts in this rapidly emerging field. *Astrocytes and Epilepsy* is written for neuroscientists, epilepsy researchers, astrocyte investigators as well as neurologists and other specialists caring for patients with epilepsy.

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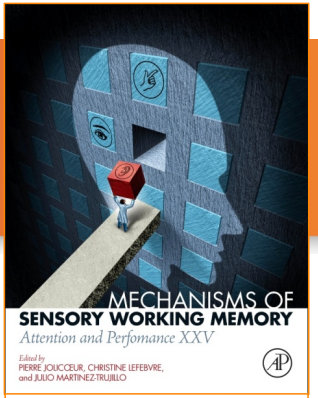


# Mechanisms of Sensory Working Memory

## *Attention and Perfomance XXV*

Edited by: ***Pierre Jolicoeur*** Département de Psychologie, Université de Montréal, Montréal, Canada
***Christine Lefebvre*** Université de Montréal, Canada
***Julio Martinez-Trujillo*** Department of Physiology, McGill University, Montréal, Canada

ELSEVIER

**A focused, foundational reference concerning sensory working memory that goes beyond traditional books on the topic**

**ISBN:** 978-0-12-811042-3
**PUB DATE:** July 2016
**FORMAT:** Hardback
**PAGES:** c. 296
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Cognitive Neuroscience, Cognitive Psychology

**KEY FEATURES**

- Introduces the study of sensory mechanisms of working memory as distinct from verbal memory
- Covers visual memory, auditory memory, and tactile memory
- Includes translational content as the breakdown of working memory is often associated with a disease, disorder, or trauma to the brain

**DESCRIPTION**

*Mechanisms of Sensory Working Memory: Attention and Performance XXV* provides an update on research surrounding the memory processes that are crucial for many facets of cognitive processing and experience, with new coverage of emerging areas of study, including a new understanding of working memory for features of stimuli devoid of verbal, phonological, or long-term memory content, such as memory for simple visual features (e.g., texture or color), simple auditory features (e.g., pitch), or simple tactile features (e.g., vibration frequency), now called sensory memory to distinguish from verbal memory.

This contemporary focus on sensory memory is just beginning, and this collection of original contributions provides a foundational reference for the study mechanisms of sensory memory. Students, scholars, and researchers studying memory mechanisms and processes in cognitive neuroscience, cognitive science, neuroscience, and psychology will find this book of great value to their work.

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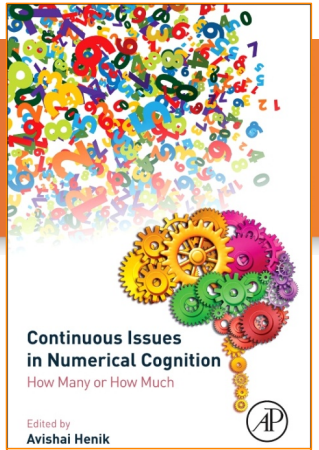


# Continuous Issues in Numerical Cognition

## *How Many or How Much*

Edited by: ***Avishai Henik*** Department of Psychology, Ben-Gurion University of the Negev, Beer-Sheva, Israel

**This cutting-edge book examines the possibility that perception and evaluation of non-countable dimensions may be involved in the development of numerical cognition, including such related issues as numerical cognition's, brain basis, development, breakdown in brain-injured individuals, and relationships to failure to master mathematical skills**

**ISBN:** 978-0-12-801637-4

**PUB DATE:** May 2016

**FORMAT:** Hardback

**PAGES:** c. 432

**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, cognitive neuroscientists, neurophysiologists, neurologists, cognitive and developmental psychologists, graduate students, and post-doctoral fellows

**KEY FEATURES**

- Serves as an innovative reference on the emerging field of numerical cognition and the branches that converge on this diverse topic
- Features chapters from leading researchers in the field
- Includes an overview of the multiple disciplines that comprise numerical cognition and discusses the measures that can be used in analysis
- Introduces novel ideas that connect non-countable continuous variables to numerical cognition

**DESCRIPTION**

*Continuous Issues in Numerical Cognition: How Many or How Much* re-examines the widely accepted view that there exists a core numerical system within human beings and an innate ability to perceive and count discrete quantities. This core knowledge involves the brain's intraparietal sulcus, and a deficiency in this region has traditionally been thought to be the basis for arithmetic disability. However, new research findings suggest this wide agreement needs to be examined carefully and that perception of sizes and other non-countable amounts may be the true precursors of numerical ability. This cutting-edge book examines the possibility that perception and evaluation of non-countable dimensions may be involved in the development of numerical cognition. Discussions of the above and related issues are important for the achievement of a comprehensive understanding of numerical cognition, its brain basis, development, breakdown in brain-injured individuals, and failures to master mathematical skills.

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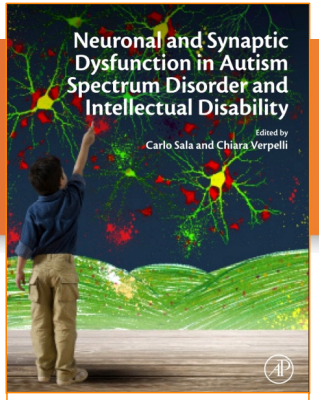


# Neuronal and Synaptic Dysfunction in Autism Spectrum Disorder and Intellectual Disability

Edited by: ***Carlo Sala*** CNR Institute of Neuroscience, Milano, Italy
***Chiara Verpelli*** CNR Institute of Neuroscience, Milano, Italy

**This extensive reference on the genetics of autism spectrum disorder and intellectual disability syndromes, and the synaptic dysfunction underlying disease pathophysiology, provides readers with the latest research and information in the field**

**ISBN:** 978-0-12-800109-7

**PUB DATE:** May 2016

**FORMAT:** Hardback

**PAGES:** c. 380

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Graduate and undergraduate students in neuroscience and biomedical sciences, researchers new to the field, and post-doctoral fellows and clinicians seeking a resource on synaptic dysfunction in autism spectrum disorder

**KEY FEATURES**

- Introduces the genetic and non-genetic causes of autism and associated intellectual disabilities
- Describes the genes implicated in autistic spectrum disorders and their function
- Considers major individual genetic causes of autism, Rett syndrome, Fragile X syndrome, and other autism spectrum disorders, as well as their classification as synaptopathies
- Presents a thorough discussion of the clinical aspects of multiple neurodevelopmental disorders and the experimental models that exist to study their pathophysiology in vitro and in vivo, including animal models and patient-derived stem cell culture

**DESCRIPTION**

*Neuronal and Synaptic Dysfunction in Autism Spectrum Disorder and Intellectual Disability* provides the latest information on Autism spectrum disorders (ASDs), the lifelong neurodevelopmental disorders that present in early childhood and affect how individuals communicate and relate to others and their surroundings.

In addition, three quarters of ASD patients also manifest severe intellectual disability. Though certain genes have been implicated, ASDs remain largely a mystery, and research looking into causes and cellular deficits are crucial for better understanding of neurodevelopmental disorders.

Despite the prevalence and insidious nature of this disorder, this book remains to be an extensive resource of information and background on the state of current research in the field.

The book serves as a reference for this purpose, and discusses the crucial role synaptic activity plays in proper brain function. In addition, the volume discusses the neurodevelopmental synaptopathies and serves as a resource for scientists and clinicians in all biomedical science specialties. This research has been crucial for recent studies that have provided a rationale for the development of pharmacological agents able to counteract functional synaptic anomalies and potentially ameliorate some ASD symptoms.

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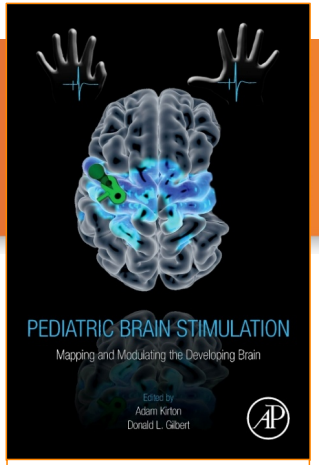


# Pediatric Brain Stimulation

## *Mapping and Modulating the Developing Brain*

Edited by: ***Adam Kirton*** Calgary Pediatric Stroke Program Pediatric Neurologist, Alberta Children's Hospital, Calgary, AB, Canada
***Donald L. Gilbert*** Movement Disorders and Tourette Syndrome Clinics, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA

**This book provides a comprehensive overview of brain stimulation in children, with chapters that include interesting topics such as transcranial magnetic stimulation (TMS) fundamentals, brain stimulation in pediatric neurological conditions, and invasive brain stimulation**

**ISBN:** 978-0-12-802001-2
**PUB DATE:** May 2016
**FORMAT:** Hardback
**PAGES:** c. 482
**TRIM:** 6w x 9h

**AUDIENCE**

Clinicians, researchers, and professionals in neurology, neurosurgery, neuroscience, and psychiatry

**KEY FEATURES**

- Provides an overview of recent findings and knowledge of pediatric brain stimulation and the developing brain
- Edited by renowned leaders in the field of pediatric brain stimulation
- Presents a great resource for basic and clinical scientists and practitioners in neuroscience, neurology, neurosurgery, and psychiatry

**DESCRIPTION**

*Pediatric Brain Stimulation: Mapping and Modulating the Developing Brain* presents the latest on this rapidly expanding field that has seen an exponential growth in publications over the past 10 years. Non-invasive modalities like TMS can painlessly map and measure complex neurophysiology in real patients. Neuromodulatory applications like rTMS and tDCS carry increasingly proven therapeutic applications. Rapidly advancing technological methodologies are increasing opportunities and indications.

Despite all these benefits, applications in the more plastic developing brains of children are only just emerging. This book provides a comprehensive overview of brain stimulation in children. Chapters include Transcranial Magnetic Stimulation (TMS) fundamentals, brain stimulation in pediatric neurological conditions, and invasive brain stimulation.

The main audience for this research will be those interested in applying brain stimulation technologies to advance clinical research and patient care, although a wide variety of clinicians and scientist will find this to be a valuable reference on brain stimulation with specific chapters on a variety of conditions.

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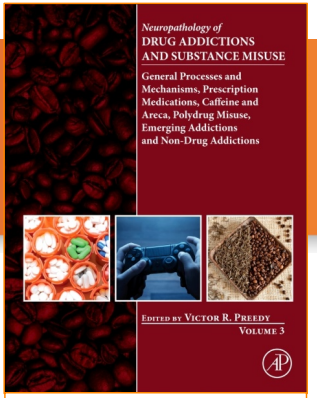


# Neuropathology of Drug Addictions and Substance Misuse Volume 3

## *General Processes and Mechanisms, Prescription Medications, Caffeine and Areca, Polydrug Misuse, Emerging Addictions and Non-Drug Addictions*

Edited by: ***Victor R. Preedy*** Department of Dietetics, King's College London, UK

**This comprehensive volume from this informative series offers a comprehensive examination of the adverse consequences of commonly abused drugs focusing on prescription medications, caffeine, polydrug misuse, and non-drug addictions and providing data on the general, molecular, cellular, structural, and functional neurological aspects of each**

**ISBN:** 978-0-12-800634-4

**PUB DATE:** May 2016

**FORMAT:** Hardback

**PAGES:** c. 1068

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in behavioral neuroscience, neurology, addiction science, psychology and research psychiatry, with additional interest in biochemistry and pharmacology.

**KEY FEATURES**

- Offers a modern approach to understanding the pathology of substances of abuse, offering an evidence-based ethos for understanding the neurology of addictions
- Fills an existing gap in the literature by serving as a "one-stop-shopping" synopsis of everything to do with the neuropathology of drugs of addiction and substance misuse
- Includes in each chapter: list of abbreviations, abstract, introduction, applications to other addictions and substance misuse, mini-dictionary of terms, summary points, 6+ figures and tables, full references
- Offers coverage of preclinical, clinical, and population studies, from the cell to whole organs, and from the genome to whole body

**DESCRIPTION**

*Neuropathology of Drug Addictions and Substance Misuse, Volume 3: General Processes and Mechanisms, Prescription Medications, Caffeine and Areca, Polydrug Misuse, Emerging Addictions and Non-Drug Addictions* is the third of three volumes in this informative series and offers a comprehensive examination of the adverse consequences of the most common drugs of abuse. Each volume serves to update the reader's knowledge on the broader field of addiction as well as to deepen understanding of specific addictive substances. *Volume 3* addresses prescription medications, caffeine, polydrug misuse, and non-drug addictions. Each section provides data on the general, molecular, cellular, structural, and functional neurological aspects of a given substance, with a focus on the adverse consequences of addictions.

Research shows that the neuropathological features of one addiction are often applicable to those of others, and understanding these commonalties provides a platform for studying specific addictions in more depth and may ultimately lead researchers toward new modes of understanding, causation, prevention and treatment. However, marshalling data on the complex relationships between addictions is difficult due to the myriad of material and substances.

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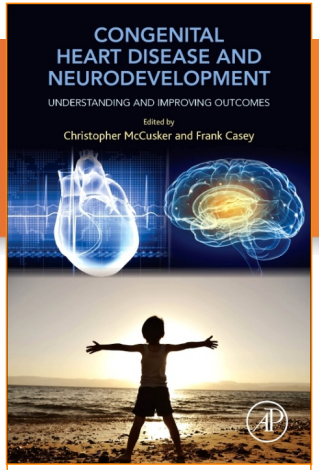



# Congenital Heart Disease and Neurodevelopment

## *Understanding and Improving Outcomes*

Edited by: ***Christopher McCusker*** School of Applied Psychology, University College Cork, Cork, Ireland
***Frank Casey*** Consultant in Paediatric Cardiology, Royal Belfast Hospital for Sick Children, Belfast, Northern Ireland, UK

**Synthesizing input from leading international researchers to provide a comprehensive examination of the causes, risks, and neurodevelopmental and psychological outcomes in children with congenital heart disease, this seminal reference includes longitudinal study outcomes and explores the emergent phenotype and etiologies, risk, and protective factors that strengthen proposed models**

**ISBN:** 978-0-12-801640-4
**PUB DATE:** May 2016
**FORMAT:** Paperback
**PAGES:** c. 190
**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, neuropsychologists, psychologists, neurologists and cardiologists

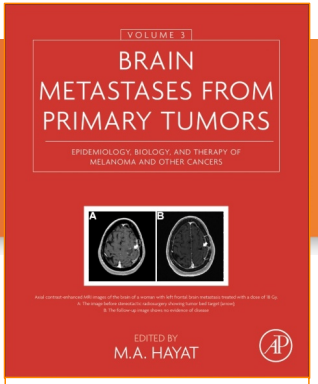
**KEY FEATURES**

- Features input from leading research experts in the field
- Describes cutting-edge research on longitudinal studies that link neurodevelopmental phenotypes with cutting-edge neuroimaging studies
- Discusses the first series of early intervention studies developed in Belfast targeted at key developmental transitions—birth and diagnosis, early childhood, and adolescence
- Includes clinical implications and action points in each section
- Features generalizable potential of interventions across other pediatric populations

**DESCRIPTION**

*Congenital Heart Disease and Neurodevelopment: Understanding and Improving Outcomes* brings together the work of leading researchers from the U.K., Europe, and the U.S. to provide a comprehensive examination of the causes, risks, and neurodevelopmental and psychological outcomes in children with congenital heart disease. The book includes longitudinal studies which have tracked outcomes from birth through late childhood and explores the emergent phenotype and etiologies, risk, and protective factors that strengthen proposed models.

Medical and surgical advances have meant that greater numbers of children with even the most severe congenital heart disease (CHD) now survive well into adulthood. Studies over the past 20 years have suggested certain neurodevelopmental and psychological features are common, with clinical interventions being internationally articulated. The U.K. Belfast Center has developed and evaluated unique early intervention programs to circumvent the common problems discerned and promote optimal adjustment and outcomes. The first edition of *Congenital Heart Disease and Neurodevelopment: Understanding and Improving Outcomes* describes these programs in detail and outlines promising results obtained by researchers worldwide. Such interventions, together with the U.S. consensus statement (Circulation, 2012) on neurodevelopmental screening, hold great promise for clinical interventions.




# Brain Metastases from Primary Tumors, Volume 3

## *Epidemiology, Biology, and Therapy of Melanoma and Other Cancers*

Edited by: ***M. A. Hayat*** Distinguished Professor, Department of Biological Sciences, Kean University, Union, NJ, USA

**Through a comprehensive overview of the mechanisms and treatment options of brain metastases from melanoma, this book provides neurooncologists, neurosurgeons, neurologists, and cancer researchers with the latest information on gene expression profiling and high-throughput gene expression techniques**

**ISBN:** 978-0-12-803508-5

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 348

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Advanced graduate students, researchers, and clinicians in the fields of neurooncology, neurosurgery, cancer research, pathology, and neurology

**KEY FEATURES**

- Presents the only comprehensive reference detailing the link between primary cancers and brain metastases in melanoma
- Aids the target audience in discussing various treatment options for patients with brain metastases from melanoma
- Edited work with chapters authored by leaders in the field around the globe – the broadest, most expert coverage available

**DESCRIPTION**

*Brain Metastases from Primary Tumors Volume Three: Epidemiology, Biology, and Therapy of Melanoma and Other Cancers* provides a comprehensive overview of the metastasis of cancer, the main cause of approximately 90% of cancer associated deaths, yet the mechanisms governing this clinically important process remain poorly understood.

Melanoma is the third most common diagnosis among patients with brain metastases, after lung and breast cancer. Approximately 75% of patients with metastatic melanoma develop brain metastases during the course of their disease. Although tumorigenesis of melanoma remains poorly understood, recent advances in gene expression profiling have revealed molecular mechanisms of this deadly disease. In addition, high-throughput gene expression has many advantages over techniques in cancer transcriptomic studies and has led to the discovery of numerous diagnostic, prognostic, and therapeutic targets, which are also detailed in this book.

The book discusses the link between primary tumors and brain metastasis of melanoma, including molecular mechanisms, treatment options, prognosis, and general applications. Comprehensive chapters discuss systemic therapy, integrin inhibitors, stereotaxic radiosurgery, and more, making this book a great resource for neurooncologists, neurosurgeons, neurologists, and cancer researchers.

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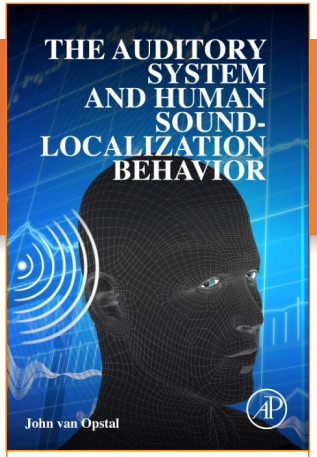



# The Auditory System and Human Sound-Localization Behavior

***John van Opstal*** Professor of Neuroscience & Biophysics, Donders Institute for Brain, Cognition and Behavior, Radboud University, Nijmegen, Netherlands

## A comprehensive account of the full action-perception cycle underlying spatial hearing

**ISBN:** 978-0-12-801529-2

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 424

**TRIM:** 6w x 9h

**AUDIENCE**

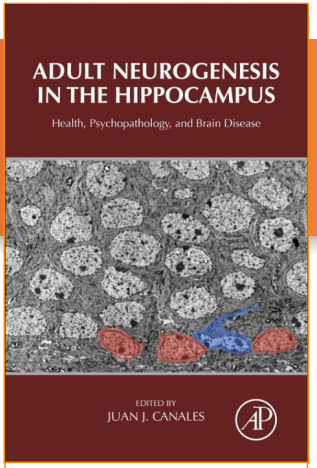
Auditory Neuroscientists, Systems and Computational Neuroscientists

**KEY FEATURES**

- Quantitative, model-driven approaches to the full action-perception cycle of sound-localization behavior and eye-head gaze control
- Comprehensive introduction to acoustics, systems analysis, computational models, and neurophysiology of the auditory system
- Full account of gaze-control paradigms that probe the acoustic action-perception cycle, including multisensory integration, auditory plasticity, and hearing impaired

**DESCRIPTION**

*The Auditory System and Human Sound-Localization Behavior* provides a comprehensive account of the full action-perception cycle underlying spatial hearing. It highlights the interesting properties of the auditory system, such as its organization in azimuth and elevation coordinates. Readers will appreciate that sound localization is inherently a neuro-computational process (it needs to process on implicit and independent acoustic cues). The localization problem of which sound location gave rise to a particular sensory acoustic input cannot be uniquely solved, and therefore requires some clever strategies to cope with everyday situations. The reader is guided through the full interdisciplinary repertoire of the natural sciences: not only neurobiology, but also physics and mathematics, and current theories on sensorimotor integration (e.g. Bayesian approaches to deal with uncertain information) and neural encoding.




# Adult Neurogenesis in the Hippocampus

## *Health, Psychopathology, and Brain Disease*

Edited by: ***Juan J. Canales*** Senior Lecturer, Department of Psychology, University of Canterbury, New Zealand

**The only book available that examines the health and psychopathological implications of adult neurogenesis**

**KEY FEATURES**

- Provides a unique overview of how adult hippocampal neurogenesis contributes to adaptive processes, brain psychopathology, and disease
- Includes state-of-the-art reviews by leading world experts in adult neurogenesis
- Companion website featuring supplemental learning materials

**DESCRIPTION**

Neurogenesis in the adult brain has emerged as one of the most dynamic and rapidly moving fields in modern neuroscience research. The implications of adult neurogenesis for health and well-being are wide-ranging, with findings in this area having distinct relevance for treatment and rehabilitation in neurology and psychopathology. *Adult Neurogenesis in the Hippocampus addresses* these implications by providing an up-to-date account on how neurogenesis in the adult hippocampus contributes to critical psychological and physiological processes, such as learning and memory, and how it is modified by life experiences, such as aging, environmental enrichment, exercise, and dieting. The book also provides the most current reviews of how adult hippocampal neurogenesis influences the pathogenesis of mood disorders, addiction, and key neurological disorders. This book is the ideal resource for researchers and advanced graduates seeking focused knowledge on the role of adult neurogenesis in brain health and disease.

**ISBN:** 978-0-12-801977-1

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 286

**TRIM:** 6w x 9h

**AUDIENCE**

researchers and advanced graduate students in behavioral neuroscience, cognitive neuroscience, neurobiology, translational neuroscience, and neuropsychology, as well as cognitive and behavioral psychology, clinical psychology, and psychiatry

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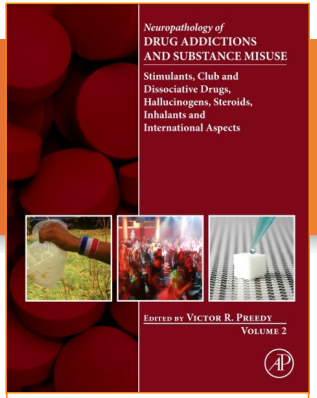


# Neuropathology of Drug Addictions and Substance Misuse Volume 2

## *Stimulants, Club and Dissociative Drugs, Hallucinogens, Steroids, Inhalants and International Aspects*

Edited by: ***Victor R. Preedy*** Department of Dietetics, King's College London, UK

**This comprehensive volume from this informative series offers a comprehensive examination of the adverse consequences of commonly abused drugs. Focuses on stimulants, club and dissociative drugs, hallucinogens, and inhalants and solvents, and provides data on the general, molecular, cellular, structural, and functional neurological aspects of each substance**

**ISBN:** 978-0-12-800212-4

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 1144

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in behavioral neuroscience, neurology, addiction science, psychology and research psychiatry, with additional interest in biochemistry and pharmacology.

**KEY FEATURES**

- Offers a modern approach to understanding the pathology of substances of abuse, offering an evidence-based ethos for understanding the neurology of addictions
- Fills an existing gap in the literature by serving as a "one-stop-shopping" synopsis of everything to do with the neuropathology of drugs of addiction and substance misuse
- Includes in each chapter: list of abbreviations, abstract, introduction, applications to other addictions and substance misuse, mini-dictionary of terms, summary points, 6+ figures and tables, and full references
- Offers coverage of preclinical, clinical, and population studies, from the cell to whole organs, and from the genome to whole body

**DESCRIPTION**

*Neuropathology of Drug Addictions and Substance Misuse, Volume 2: Stimulants, Club and Dissociative Drugs, Hallucinogens, Steroids, Inhalants and International Aspects* is the second of three volumes in this informative series and offers a comprehensive examination of the adverse consequences of the most common drugs of abuse. Each volume serves to update the reader's knowledge on the broader field of addiction as well as to deepen understanding of specific addictive substances. *Volume 2* addresses stimulants, club and dissociative drugs, hallucinogens, and inhalants and solvents. Each section provides data on the general, molecular and cellular, and structural and functional neurological aspects of a given substance, with a focus on the adverse consequences of addictions.

Research shows that the neuropathological features of one addiction are often applicable to those of others, and understanding these commonalties provides a platform for studying specific addictions in more depth and may ultimately lead researchers toward new modes of understanding, causation, prevention, and treatment. However, marshalling data on the complex relationships between addictions is difficult due to the myriad material and substances.

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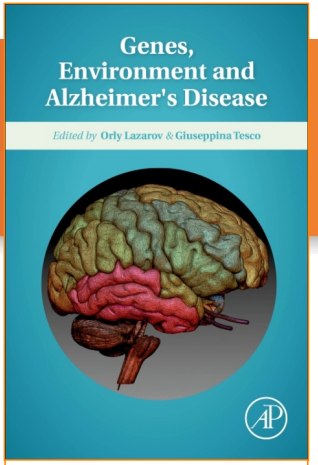


# Genes, Environment and Alzheimer's Disease

Edited by: ***Orly Lazarov*** Associate Professor of Neuroscience, Department of Anatomy and Cell Biology, University of Illinois at Chicago, IL, USA
***Giuseppina Tesco*** Associate Professor of Neuroscience, Alzheimer's Disease Research Laboratory, Department of Neuroscience, Tufts University School of Medicine, Boston, MA, USA

**As the first volume to thoroughly explore the interplay between genetic and environmental risk factors in the induction of cognitive decline and the development of dementia related diseases such as Alzheimer's disease, this book provides the latest information on the science**

**ISBN:** 978-0-12-802851-3
**PUB DATE:** April 2016
**FORMAT:** Hardback
**PAGES:** c. 426
**TRIM:** 6w x 9h

**AUDIENCE**

Basic and clinical neuroscientists working on AD, cognitive decline and dementia

**KEY FEATURES**

- Provides the first volume to link genetic and environmental risk factors for Alzheimer's disease and dementia
- Aids researchers and clinicians in understanding the basic mechanisms of Alzheimer's disease and cognitive decline
- Brings the basic science and clinical perspectives together in a single volume, facilitating translational possibilities
- Includes a range of molecular to behavioral components assembled into a single volume that creates an excellent resource for basic and clinical neuroscientists

**DESCRIPTION**

*Genes, Environment and Alzheimer's Disease* discusses the role that activities such as exercise can play in cardiovascular health, while also highlighting the fact that the last 10 years have brought great discoveries in the strong environmental component of brain disorders, neurodegeneration, and cognitive decline.

It is now clear that brain insult is an environmental risk factor for AD, while on the other hand, lifestyle components such as exercise and level of education may play a protective role, delaying the onset and/or severity of the disease. Evidence from experiments in rodent models of Alzheimer's disease contributes major insight into the molecular mechanisms by which the environment plays its role in AD. Additionally, there are diseases related to lifestyle that may lead to AD. This volume reviews new discoveries related to all these factors, serving as a translational tool for clinicians and researchers interested in genetic and environmental risk factors for the disease.

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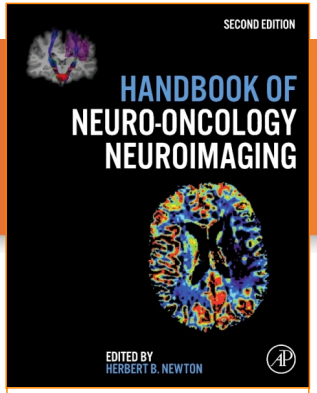


# Handbook of Neuro-Oncology Neuroimaging, 2e

Edited by: ***Herbert B. Newton*** Director, Neuro-Oncology Program, Wallace Kettering Neuroscience Institute Kettering Medical Center/Kettering Cancer Center, Kettering, OH, USA

**A comprehensive handbook updating the current methods and techniques in the neuro-oncology neuroimaging field**

**ISBN:** 978-0-12-800945-1

**PREVIOUS EDITION ISBN:** 9780123708632

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 842

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neurosurgeons, neuro-oncologists, neuroradiologists, oncologists, neurologists, and researchers (within oncology and radiology) with an interest in neuroimaging and neuro-oncology

**KEY FEATURES**

- Provides a background to translational research and the use of brain imaging for brain tumors
- Contains critical discussions on the potential and limitations of neuroimaging as a translational tool for the diagnosis and treatment of brain tumor and neuro-oncology patients
- Presents an up-to-date reference on advanced imaging technologies, including computed tomography (CT), magnetic resonance imaging (MRI), and positron emission tomography (PET), as well as the recent refinements in these techniques

**DESCRIPTION**

Remarkable progress in neuro-oncology due to increased utilization of advanced imaging in clinical practice continues to accelerate in recent years. Refinements in magnetic resonance imaging (MRI) and computed tomography (CT) technology, and the addition of newer anatomical, functional, and metabolic imaging methods, such as MRS, fMRI, diffusion MRI, and DTI MRI have allowed brain tumor patients to be diagnosed much earlier and to be followed more carefully during treatment.

With treatment approaches and the field of neuro-oncology neuroimaging changing rapidly, this second edition of the *Handbook of Neuro-Oncology Neuroimaging* is so relevant to those in the field, providing a single-source, comprehensive, reference handbook of the most up-to-date clinical and technical information regarding the application of neuro-Imaging techniques to brain tumor and neuro-oncology patients. This new volume will have updates on all of the material from the first edition, and in addition will feature several new important chapters covering diverse topics such as advanced imaging techniques in radiation therapy, therapeutic treatment fields, response assessment in clinical trials, surgical planning of neoplastic disease of the spine, and more. It will also serve as a resource of background information to neuroimaging researchers and basic scientists with an interest in brain tumors and neuro-oncology.

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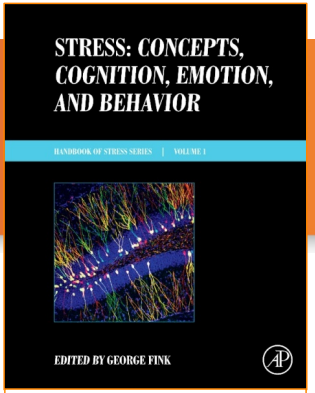


# Stress: Concepts, Cognition, Emotion, and Behavior

## *Handbook of Stress Series Volume 1*

Edited by: ***George Fink*** Professorial Research Fellow and Hon Professor, Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, VIC, Australia

**This first volume in the *Handbook in Stress* series focuses on general concepts important to stress biology and the complex relationship between human cognition, emotion, and the manifestation of stress. Appropriate for faculty, graduate, and undergraduate students interested in stress and its consequences, as well as researchers and clinicians.**

*There are many books on Stress, but [this] covers a much wider variety of interesting topics than most - I'm enjoying reading it. Excellent choice of themes and authors. Good and tight editing. The Key Point boxes are very helpful. Of all the stresses that are described in the book - clearly one will never be a source of stress for [the reader] - Boredom!*

-- Professor David Copolov, OAM, MBBS, PhD, FRACP, FRANZCP, MPM, DPM, AO, Pro Vice-Chancellor, Major Campuses and Student Engagement, and Professor of Psychiatry, Monash University, Professor of Psychiatry, University of Melbourne and Professorial Fellow, Florey Institute of Neuroscience and Mental Health

**ISBN:** 978-0-12-800951-2

**PUB DATE:** March 2016

**FORMAT:** Hardback

**PAGES:** c. 488

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Graduate and medical libraries, clinicians, physician scientists, psychologists, psychiatrists, neurologists, immunologists, neuroendocrinologists, molecular biologists, neuropharmacologists, geneticists, social workers, health workers, researchers, faculty and graduate and undergraduate students in biomedicine, psychology and social sciences, including stress and its management in the workplace.

**KEY FEATURES**

- Offers chapters with impressive scope, covering topics including the interactions between stress, cognition, emotion and behaviour
- Features articles carefully selected by eminent stress researchers and prepared by contributors representing outstanding scholarship in the field
- Includes rich illustrations with explanatory figures and tables
- Includes boxed call out sections that serve to explain key concepts and methods
- Allows access to specific self-contained stress subsections without the need to purchase the whole nine volume *Stress* handbook series

**DESCRIPTION**

*Stress: Concepts, Cognition, Emotion, and Behavior: Handbook in Stress Series, Volume 1*, examines stress and its management in the workplace and is targeted at scientific and clinical researchers in biomedicine, psychology, and some aspects of the social sciences. The audience is appropriate faculty and graduate and undergraduate students interested in stress and its consequences. The format allows access to specific self-contained stress subsections without the need to purchase the whole nine volume *Stress* handbook series. This makes the publication much more affordable than the previously published four volume *Encyclopedia of Stress* (Elsevier 2007) in which stress subsections were arranged alphabetically and therefore required purchase of the whole work. This feature will be of special significance for individual scientists and clinicians, as well as laboratories. In this first volume of the series, the primary focus will be on general stress concepts as well as the areas of cognition, emotion, and behavior.

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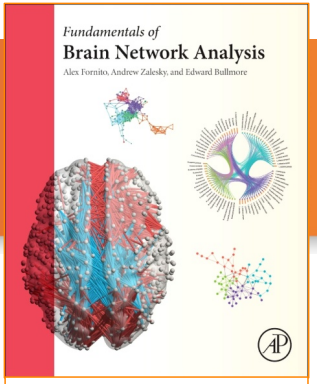


# Fundamentals of Brain Network Analysis

***Alex Fornito*** Brain and Mental Health Laboratory, Institute of Cognitive and Clinical Neuroscience, Monash University, Melbourne, Australia
***Andrew Zalesky*** Melbourne Neuropsychiatry Centre and the Melbourne School of Engineering, The University Melbourne, Australia
***Edward Bullmore*** Brain Mapping Unit, Department of Psychiatry, University of Cambridge, UK

**This book is the first comprehensive introduction to neural connectomics. It explains fundamental concepts with detailed examples of their application to neuroscience. It is suitable for use as a reference for both researchers and students aiming to gain familiarity with the field.**

**ISBN:** 978-0-12-407908-3
**PUB DATE:** March 2016
**FORMAT:** Hardback
**PAGES:** c. 476
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Students and researchers with an interest in neuroscience, or network science applied to the brain.

...a thorough and didactic presentation of the tools available to research scientists wishing to engage in the emgerging field of network neuroscience...this text promises to be an essential title on the bookshelf of the intellectually curious neuroscientist...as with any good book, one turns the final page wishing there were more. - BRAIN Book Review

**KEY FEATURES**

- Extensively illustrated throughout by graphical representations of key mathematical concepts and their practical applications to analyses of nervous systems
- Comprehensively covers graph theoretical analyses of structural and functional brain networks, from microscopic to macroscopic scales, using examples based on a wide variety of experimental methods in neuroscience
- Designed to inform and empower scientists at all levels of experience, and from any specialist background, wanting to use modern methods of network science to understand the organization of the brain

**DESCRIPTION**

*Fundamentals of Brain Network Analysis* is a comprehensive and accessible introduction to methods for unraveling the extraordinary complexity of neuronal connectivity. From the perspective of graph theory and network science, this book introduces, motivates and explains techniques for modeling brain networks as graphs of nodes connected by edges, and covers a diverse array of measures for quantifying their topological and spatial organization. It builds intuition for key concepts and methods by illustrating how they can be practically applied in diverse areas of neuroscience, ranging from the analysis of synaptic networks in the nematode worm to the characterization of large-scale human brain networks constructed with magnetic resonance imaging. This text is ideally suited to neuroscientists wanting to develop expertise in the rapidly developing field of neural connectomics, and to physical and computational scientists wanting to understand how these quantitative methods can be used to understand brain organization.

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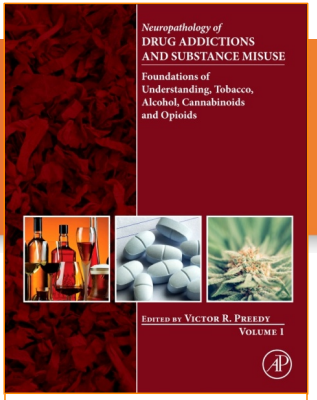


# Neuropathology of Drug Addictions and Substance Misuse Volume 1

## *Foundations of Understanding, Tobacco, Alcohol, Cannabinoids and Opioids*

Edited by: ***Victor R. Preedy*** Department of Dietetics, King's College London, UK

**This comprehensive book provides a one-stop-shop for addiction researchers that offers broad coverage on all the most common substances of abuse, the adverse consequences of addictions, and the ways that their commonalties can provide a platform for the future study of specific addictions in greater depth**

**ISBN:** 978-0-12-800213-1

**PUB DATE:** March 2016

**FORMAT:** Hardback

**PAGES:** c. 1092

**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Researchers and advanced students in behavioral neuroscience, neurology, addiction science, psychology and research psychiatry, with additional interest in biochemistry and pharmacology.

**KEY FEATURES**

- Provides a modern approach on the pathology of substances of abuse, offering an evidence based ethos for understanding the neurology of addictions
- Fills an existing gap in the literature by proving a one-stop-shopping synopsis of everything to do with the neuropathology of drugs of addiction and substance misuse
- Includes a list of abbreviations, abstracts, applications to other addictions and substance misuse, mini-dictionary of terms, summary points, 6+ figures and tables, and full references in each chapter
- Offers coverage of preclinical, clinical, and population studies, from the cell to whole organs, and the genome to whole body

**DESCRIPTION**

*Neuropathology of Drug Addictions and Substance Misuse, Volume One: Foundations of Understanding, Tobacco, Alcohol, Cannabinoids, Opioids and Emerging Addictions* provides the latest research in an area that shows that the neuropathological features of one addiction are often applicable to those of others. The book also details how a further understanding of these commonalties can provide a platform for the study of specific addictions in greater depth, all in an effort to create new modes of understanding, causation, prevention, and treatment.

The three volumes in this series address new research and challenges, offering comprehensive coverage on the adverse consequences of the most common drugs of abuse, with each volume serving to update the reader's knowledge on the broader field of addiction, while also deepening our understanding of specific addictive substances. Volume One addresses tobacco, alcohol, cannabinoids, and opioids, with each section providing data on the general, molecular/cellular, and structural/functional neurological aspects of a given substance, along with a focus on the adverse consequences of addictions.

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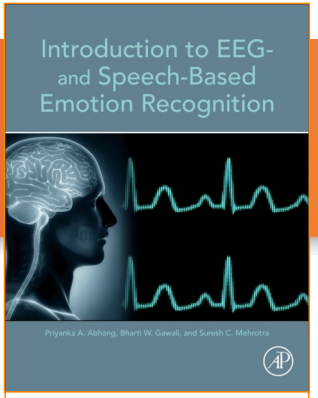


# Introduction to EEG- and Speech-Based Emotion Recognition

***Priyanka A. Abhang*** Dr. Babasaheb Ambedkar Marathwada University, Maharashtra, India
***Bharti Gawali*** Dr. Babasaheb Ambedkar Marathwada University, Maharashtra, India
***Suresh Mehrotra*** Dr. Babasaheb Ambedkar Marathwada University, Maharashtra, India

## A reference on EEG methods for recording and analyzing emotion recognition, brain rhythm, and speech processing

**ISBN:** 978-0-12-804490-2
**PUB DATE:** March 2016
**FORMAT:** Paperback
**PAGES:** c. 188
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, computational neuroscientists, neurologists, engineers, BCI/EEG researchers, graduate students/post-docs in biological and biomedical sciences

**KEY FEATURES**

- Provides detailed insight on the science of emotion and the brain signals underlying this phenomenon
- Examines emotions as a multimodal entity, utilizing a bimodal emotion recognition system of EEG and speech data
- Details the implementation of techniques used for acquiring as well as analyzing EEG and speech signals for emotion recognition

**DESCRIPTION**

*Introduction to EEG- and Speech-Based Emotion Recognition Methods* examines the background, methods, and utility of using electroencephalograms (EEGs) to detect and recognize different emotions. By incorporating these methods in brain-computer interface (BCI), we can achieve more natural, efficient communication between humans and computers. This book discusses how emotional states can be recognized in EEG images, and how this is useful for BCI applications. EEG and speech processing methods are explored, as are the technological basics of how to operate and record EEGs. Finally, the authors include information on EEG-based emotion recognition, classification, and a proposed EEG/speech fusion method for how to most accurately detect emotional states in EEG recordings.

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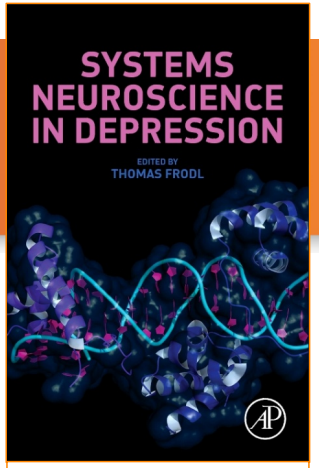


# Systems Neuroscience in Depression

***Thomas Frodl*** Otto von Guericke University Magdeburg, Germany

**Provides a comprehensive overview of the normal and depressed brain processes from a systems neuroscience perspective**

**ISBN:** 978-0-12-802456-0

**PUB DATE:** March 2016

**FORMAT:** Hardback

**PAGES:** c. 384

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers and practitioners in the fields of systems neuroscience, psychiatry, and neurology

**KEY FEATURES**

- Knowledge covering the whole life span from early to later life
- Comprehensively written chapters developing from molecules via epigenetics and neural circuits to clinical neuroscience
- Understanding the neurobiology of major depressive disorder
- Integrating stress and environmental factors with molecular underpinnings
- More than 25 illustrations and tables

**DESCRIPTION**

*Systems Neuroscience in Depression* provides a comprehensive overview of the normal and depressed brain processes as studied from a systems neuroscience perspective. Systems neuroscience uses a wide variety of approaches to study how networks of neurons form the bases of higher brain function. A broad overview is discussed starting with a background from neurodevelopment and neural understanding as well as novel treatment approaches for depression. This book covers basic developmental aspects and depressive psychopathology, as well as the basic scientific background from animal models and experimental research. Current advances in systems neuroscience are highlighted in studies from child and adolescent psychiatry. Integrated approaches are presented with regards to genetics, neuroimaging and neuroinflammation as well as neuroendocrinology. The field of systems and network neuroscience is evolving rapidly and this book provides a greatly needed resource for researchers and practitioners in systems neuroscience and psychiatry.

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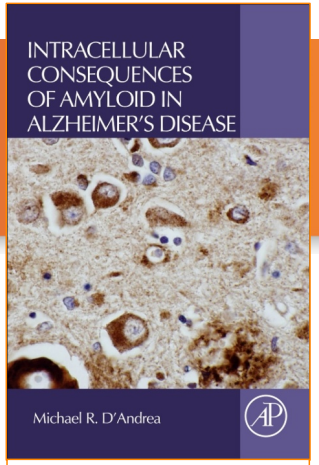


# Intracellular Consequences of Amyloid in Alzheimer's Disease

***Michael R. D'Andrea*** President, Slidomics, LLC, Wilmington, DE, USA

**Addresses one of the more currently unresolved aspects confounding Alzheimer's research; the significance of intraneuronal amyloid and its origin, entry, and toxicity**

... Our difference of opinion on the formation of intracellular A? is what makes Dr. D'Andrea's book a must read for Alzheimer's professionals and students alike. The book examines considerable evidence carefully explained using a writing style remarkably easy to understand; additionally, the illustrations in support of the evidence presented are a knockout.

-- Jack de la Torre, MD, PhD

June 13, 2016

**ISBN:** 978-0-12-804256-4

**PUB DATE:** March 2016

**FORMAT:** Paperback

**PAGES:** c. 200

**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, graduate students, post-docs, discovery scientists, clinicians, any biomedical/biological researchers interested in Alzheimer's research.

**KEY FEATURES**

- Presents the latest research on the significance of intracellular amyloid as it relates to Alzheimer's
- Addresses crucial questions about intracellular amyloid, including how if forms and enters neurons, its toxicity, if it triggers cell death, and how amyloid plaques are formed
- Examines the potential relationship between intracellular amyloid, plaques, and cognitive impairment in an effort to answer whether Alzheimer's is initially a problem of amyloid, the neuron, or of the blood-brain barrier
- Seeks to help researchers generate additional alternative therapeutic opportunities to cure Alzheimer's

**DESCRIPTION**

*Consequences of Intracellular Amyloid in Alzheimer's Disease* addresses one of the more currently unresolved aspects confounding Alzheimer's research, the significance of intraneuronal amyloid. It seeks to explain some of the unresolved questions concerning intracellular amyloid and its origin, entry, and toxicity.

Following up on Dr. D'Andrea's first book, *Bursting Neurons and Fading Memories: An Alternative Hypothesis for the Pathogenesis of Alzheimer's Disease,* this book further examines the Inside-Out or Bursting alternative hypothesis of how amyloid escapes the circulatory system to ultimately enter neurons, also examining whether there is a relationship between intracellular amyloid, amyloid plaques, and cognitive impairment. Through a comprehensive explanation of the currently relevant scientific research on intracellular amyloid compiled in this handy reference, readers will better understand the mechanisms that lead to neuron death.

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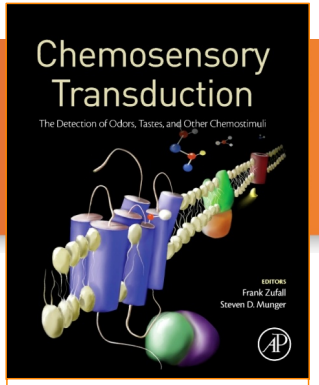


# Chemosensory Transduction

## *The Detection of Odors, Tastes, and Other Chemostimuli*

Edited by: ***Frank Zufall*** Department of Physiology, University of Saarland School of Medicine, Homburg, Germany
***Steven D. Munger*** Department of Pharmacology and Therapeutics, Center for Smell and Taste, University of Florida, Gainesville, FL, USA

**This go-to reference provides an overview of the state-of-the-art approaches and key findings in the study of chemosensory transduction, and is an ideal reference for practicing scientists and students with backgrounds in sensory biology or neurobiology, as well as industry researchers engaged in the design or testing of new flavors, fragrances, and/or foods**

**ISBN:** 978-0-12-801694-7
**PUB DATE:** February 2016
**FORMAT:** Hardback
**PAGES:** c. 410
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Academic and industry scientists, graduate students focused on sensory biology, neurobiology, olfaction and taste

**KEY FEATURES**

- Provides a comprehensive overview for all chemosensory transduction mechanisms
- Valuable for academics focused on sensory biology, neurobiology, and chemosensory transduction, as well as industry researchers in new flavor, fragrance, and food testing
- Edited by leading experts in the field of olfactory transduction
- Focuses on mammals, but lower vertebrates and invertebrate model systems are also included

**DESCRIPTION**

Written by leaders in the field of chemosensation, Chemosensory Transduction provides a comprehensive resource for understanding the molecular mechanisms that allow animals to detect their chemical world. The text focuses on mammals, but also includes several chapters on chemosensory transduction mechanisms in lower vertebrates and insects. This book examines transduction mechanisms in the olfactory, taste, and somatosensory (chemesthetic) systems as well as in a variety of internal sensors that are responsible for homeostatic regulation of the body. Chapters cover such topics as social odors in mammals, vertebrate and invertebrate olfactory receptors, peptide signaling in taste and gut nutrient sensing. Includes a foreword by preeminent olfactory scientist Stuart Firestein, Chair of Columbia University's Department of Biological Sciences in New York, NY.

Chemosensory Transduction describes state-of-the-art approaches and key findings related to the study of the chemical senses. Thus, it serves as the go-to reference for this subject for practicing scientists and students with backgrounds in sensory biology and/or neurobiology. The volume will also be valuable for industry researchers engaged in the design or testing of flavors, fragrances, foods and/or pharmaceuticals.

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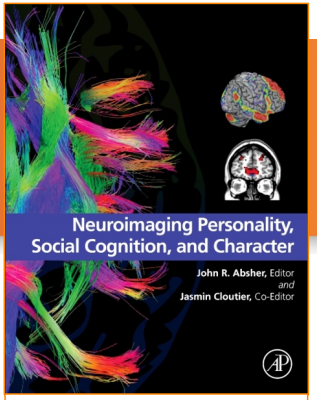



# Neuroimaging Personality, Social Cognition, and Character

Edited by: ***John R Absher*** University of South Carolina School of Medicine Greenville, Greenville, SC, USA; Absher Neurology, P.A. and Alliance for Neuro Research, LLC, Greenville, SC, USA
***Jasmin Cloutier*** Department of Psychology, University of Chicago, Chicago, IL, USA

**ISBN:** 978-0-12-800935-2
**PUB DATE:** February 2016
**FORMAT:** Hardback
**PAGES:** c. 406
**TRIM:** 8.5w x 10.875h

**AUDIENCE**

Neuroscientists, cognitive neuroscientists, neurophysiologists, neurologists, psychologists, sociologists, graduate students.

## An extensive reference on the utility of neuroimaging in dissecting human character, and how data from brain imaging and analytical techniques can be used to understand human cognition and behavior

**KEY FEATURES**

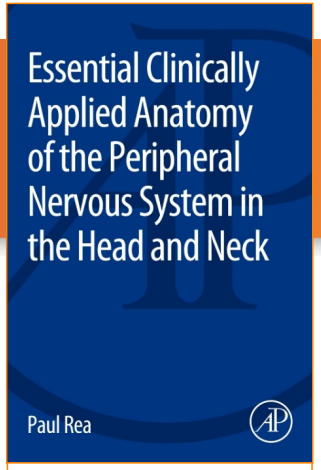
- Provides a novel innovative reference on the emerging use of neuroimaging to reveal the biological substrates of character, such as optimism, honesty, generosity, and others
- Features chapters from leading physicians and researchers in the field
- Contains full-color text that includes both an overview of multiple disciplines and a detailed review of modern neuroimaging tools as they are applied to study human character
- Presents an integrative volume with far-reaching implications for guiding future imaging research in the social, psychological and medical sciences, and for applying these findings to a wide range of non-clinical disciplines such as law, politics, and religion
- Connects brain structure and function to human character and integrates modern neuroimaging techniques and other research methods for this purpose

**DESCRIPTION**

*Neuroimaging Personality, Social Cognition, and Character* covers the science of combining brain imaging with other analytical techniques for use in understanding cognition, behavior, consciousness, memory, language, visual perception, emotional control, and other human attributes.

Multidimensional brain imaging research has led to a greater understanding of character traits such as honesty, generosity, truthfulness, and foresight previously unachieved by quantitative mapping. This book summarizes the latest brain imaging research pertaining to character with structural and functional human brain imaging in both normal individuals and those with brain disease or disorder, including psychiatric disorders.

By reviewing and synthesizing the latest structural and functional brain imaging research related to character, this book situates itself into the larger framework of cognitive neuroscience, psychiatric neuroimaging, related fields of research, and a wide range of academic fields, such as politics, psychology, medicine, education, law, and religion.




# Essential Clinically Applied Anatomy of the Peripheral Nervous System in the Head and Neck

***Paul Rea*** Laboratory of Human Anatomy, College of Medical, Veterinary and Life Sciences, University of Glasgow, UK

**This book provides a quick and easy reference for the peripheral nervous system (PNS) anatomy, as applicable to the clinical scenario, with chapters detailing modern clinical approaches to the surgery and treatment of pathologies affecting the nerves of the head and neck**

**ISBN:** 978-0-12-803633-4

**PUB DATE:** February 2016

**FORMAT:** Paperback

**PAGES:** c. 184

**TRIM:** 6w x 9h

**AUDIENCE**

This book is a quick reference guide for those studying and treating neuromuscular disease such as neurologists, neurosurgeons, neuroradiologists, as well as for clinical neurophysiologists.

**KEY FEATURES**

- Surveys the anatomy of the PNS nerves in the head and neck
- Includes key facts and summary tables essential to clinical practice
- Offers a succinct yet comprehensive format with quick and easy access to facts and essential details
- Includes comprehensive chapters on nerves of the head and neck, discussing origin, course, distribution, and relevant pathologies

**DESCRIPTION**

*Essential Clinically Applied Anatomy of the Nerves in the Head and Neck* presents the reader with an easy access format to clinically-applied peripheral nervous system (PNS) anatomy. Perfect for a quick reference to essential details. The chapters review nerves of the head and neck, the origin(s), course, distribution and relevant pathologies affecting each are given, where relevant. The pathologies present typical injuries to the nerves of the PNS, as well as clinical findings on examination and treatments. It details modern clinical approaches to the surgery and other treatments of these nerve pathologies, as applicable to the clinical scenario.

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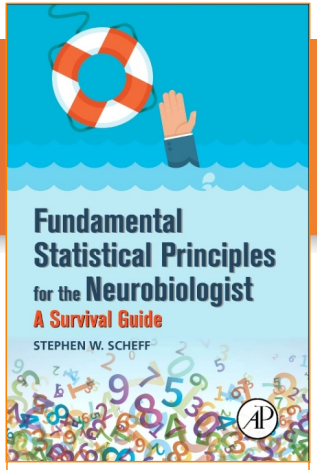



# Fundamental Statistical Principles for the Neurobiologist

## *A Survival Guide*

***Stephen W. Scheff*** Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY, USA

**An introduction to statistical principles for neuroscientists and students with helpful examples and data formulation techniques**

**ISBN:** 978-0-12-804753-8

**PUB DATE:** February 2016

**FORMAT:** Paperback

**PAGES:** c. 216

**TRIM:** 6w x 9h

**AUDIENCE**

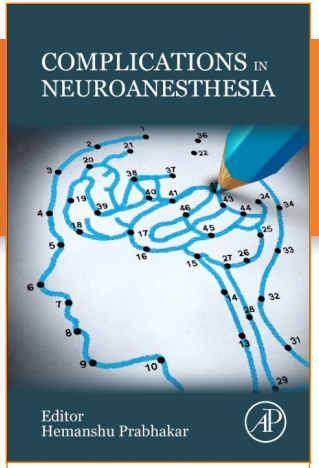
Neuroscientists, graduate students/post-docs in biological and biomedical sciences

**KEY FEATURES**

- An introductory guide to statistics aimed specifically at the neuroscience audience
- Contains numerous examples with actual data that is used in the analysis
- Gives the investigators a starting pointing for evaluating data in easy-to-understand language
- Explains in detail many different statistical tests commonly used by neuroscientists

**DESCRIPTION**

*Fundamental Statistical Principles for Neurobiologists* introduces readers to basic experimental design and statistical thinking in a comprehensive, relevant manner. This book is an introductory statistics book that covers fundamental principles written by a neuroscientist who understands the plight of the neuroscience graduate student and the senior investigator. It summarizes the fundamental concepts associated with statistical analysis that are useful for the neuroscientist, and provides understanding of a particular test in language that is more understandable to this specific audience, with the overall purpose of explaining which statistical technique should be used in which situation. Different types of data are discussed such as how to formulate a research hypothesis, the primary types of statistical errors and statistical power, followed by how to actually graph data and what kinds of mistakes to avoid. Chapters discuss variance, standard deviation, standard error, mean, confidence intervals, correlation, regression, parametric vs. nonparametric statistical tests, ANOVA, and *post hoc* analyses. Finally, there is a discussion on how to deal with data points that appear to be "outliers" and what to do when there is missing data, an issue that has not sufficiently been covered in literature.




# Complications in Neuroanesthesia

Edited by: ***Hemanshu Prabhakar*** M.D., Ph.D. Department of Neuroanesthesiology, All India Institute of Medical Sciences (AIIMS), Ansari Nagar East, Gautam Nagar, New Delhi, Delhi, India

**Provides comprehensive insights into all possible complications occurring during perioperative management of neurosurgical and neurologic patients related to neuroanesthesia**

"In summary, this textbook is a comprehensive, well-organized, up-to-date review of complications that may occur in neurosurgical and neurologic patients. As it is the only textbook to provide such a comprehensive overview of the complications specifically related to neuroanesthesia, we would recommend this book to any trainee or consultant neuroanesthesiologist, intensivist, or neurosurgeon."

-- Melissa Brockerville, MD and Lashmi Venkatraghavan, Can J Anaesth, 2016

**KEY FEATURES**

- Quick and easy reference for understanding problems in neuroanesthesia
- Provides comprehensive insights into all possible complications occurring during perioperative management of neurosurgical and neurologic patients
- Includes useful section with clinical case studies of complications in neuroanesthesia

**DESCRIPTION**

*Complications in Neuroanesthesia* focuses on complications that may arise related to neuroanesthesia practice and discusses its various causes. Each complication is written as a separate chapter, and the pathophysiology and mechanisms of each complication, as well as measures for diagnosis, treatment and prevention are discussed. Towards the end of the book, several case scenarios are provided to the readers that challenge readers to diagnose the possible complication for each case. Chapters include brain and spinal cord problems, cardiovascular and hematological problems, and nerve and muscle problems.

Written in a standard format, *Complications in Neuroanesthesia* provides quick and easy access to understanding problems in neuroanesthesia. It provides insight into all possible complications occurring during perioperative management of neurosurgical and neurologic patients. It is useful for trainees, clinicians, and researchers in the fields of neurosurgery, neurocritical care, and neurology by providing an understanding of preventable mishaps that may occur in neurosurgical or neurologic patients.

**ISBN:** 978-0-12-804075-1
**PUB DATE:** February 2016
**FORMAT:** Paperback
**PAGES:** c. 474
**TRIM:** 6.125w x 9.25h

**AUDIENCE**

Trainees, clinicians, and researchers in the fields of neurosurgery, neurocritical care, neurology, and neuroanesthesia

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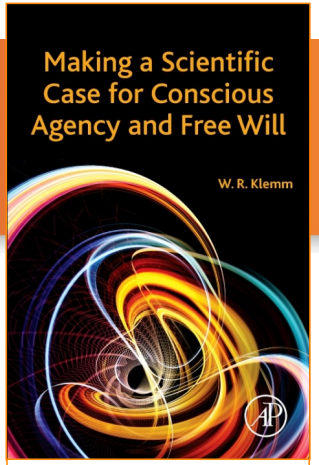


# Making a Scientific Case for Conscious Agency and Free Will

***William R. Klemm*** Senior Professor of Neuroscience, Texas A&M University, USA

**This enlightening and thought-provoking book examines the concept of free will as the natural result of human brain functions. The book considers arguments both for and against free will from philosophical, religious, social, legal, and neuroscience perspectives. Includes an outline for related future research avenues in neuroscience**

**ISBN:** 978-0-12-805153-5

**PUB DATE:** February 2016

**FORMAT:** Paperback

**PAGES:** c. 108

**TRIM:** 6w x 9h

**AUDIENCE**

Advanced students and researchers in cognitive neuroscience, cognitive science, and other areas related to consciousness, as well as those interested in neuroethics, neurophilosophy, neurotheology, neuropsychology, and the intersection between neuroscience and the law

**KEY FEATURES**

- Considers arguments for and against free will from religious, social, legal, and neuroscience perspectives
- Provides thorough coverage of the manifold human behaviors that can be explained only by free will, from consciousness to creativity
- Outlines future directions for further neuroscience research into the topic

**DESCRIPTION**

*Making a Scientific Case for Conscious Agency and Free Will* makes a series of arguments that certain human behaviors are impossible to explain in the absence of free will, and that free will emerges from materialistic processes of brain function. It outlines future directions for neuroscience studies that can harness emerging technologies and tools for systems-level analysis.

All humans have the sensation that they consciously will certain things to happen and that, in the absence of external constraints, they are free to choose from among alternatives. This notion of free will is deemed obvious by the average person based on common experience. Free will is frequently defended with arguments stemming from social, legal, philosophical, and religious perspectives. But these arguments appeal to consequences—not causes—of choices and decisions. In the past 3 decades, debate has raged within the scientific community over whether free will is in fact an illusion. Because free will would require conscious agency, the supporting corollary is that consciousness itself cannot do anything and is merely an observer rather than an actor.

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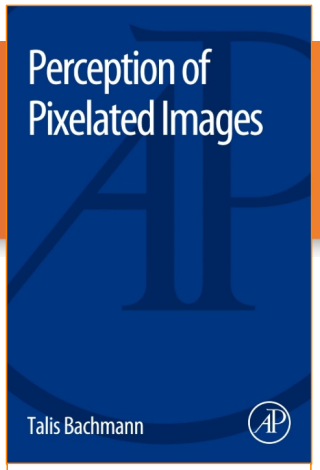


# Perception of Pixelated Images

***Talis Bachmann*** University of Tartu, Tartu, Estonia

**This interesting book provides a brief summary on how the brain processes pixelated images, the limits of perception, and what new research tells us about perception in general, providing additional guidance on the use of pixelated images in communication, socialization, and in commerce**

**ISBN:** 978-0-12-809311-5

**PUB DATE:** January 2016

**FORMAT:** Paperback

**PAGES:** c. 160

**TRIM:** 6w x 9h

**AUDIENCE**

Researchers in vision, perception, cognitive neuroscience, computer science, engineering, consumer science

**KEY FEATURES**

- Integrates research from psychology, neuroscience, computer science, and engineering
- Explains how the process of perception works for pixelated images
- Identifies what assists and hinders perception, including the method of pixelation
- Discusses the limits of perception of pixelated images

**DESCRIPTION**

*Perception of Pixelated Images* covers the increasing use of these images in everyday life as communication, socialization, and commerce increasingly rely on technology. The literature in this book is dispersed across a wide group of disciplines, from perception and psychology to neuroscience, computer science, engineering, and consumer science.

The book summarizes the research to date, answering such questions as, *What are the spatial and temporal limits of perceptual discrimination of pixelated images?, What are the optimal conditions for maximizing information extracted from pixelated images?*, and *How does the method of pixelation compromise or assist perception?*

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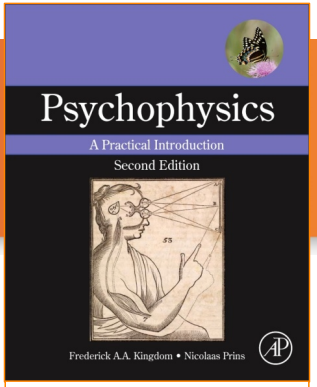


# Psychophysics, 2e

## *A Practical Introduction*

***Frederick A.A. Kingdom*** Department of Opthalmology, McGill Vision Research, Montreal, QC, Canada
***Nicolaas Prins*** Department of Psychology, University of Mississippi, University, MS, USA

**The book is the primary scientific tool for understanding how psychophysical, i.e. behavioral methods are employed to study how the brain translates the external physical world into the internal world of sensation**

**ISBN:** 978-0-12-407156-8

**PREVIOUS EDITION ISBN:** 9780123736567

**PUB DATE:** January 2016

**FORMAT:** Hardback

**PAGES:** c. 332

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Researchers, graduate students, and post-doctorates in perception research in neuroscience, psychology, cognition; optometrists.

**KEY FEATURES**

- Presents a large variety of analytical methods explained for the non-expert
- Provides a novel classification scheme for psychophysics experiments
- Includes a new software package for collecting and analyzing psychophysical data
- Disseminates the pros and cons of different psychophysical procedures
- Contains practical tips for designing psychophysical experiments

**DESCRIPTION**

*Psychophysics: A Practical Introduction, Second Edition*, is the primary scientific tool for understanding how the physical world of colors, sounds, odors, movements, and shapes translates into the sensory world of sight, hearing, touch, taste, and smell; in other words, how matter translates into mind.

This timely revision provides a unique introduction to the techniques for researching and understanding how the brain translates the external physical world to the internal world of sensation. The revision expands and refines coverage of the basic tools of psychophysics research and better integrates the theory with the supporting software.

The new edition continues to be the only book to combine, in a single volume, the principles underlying the science of psychophysical measurement and the practical tools necessary to analyze data from psychophysical experiments. The book, written in a tutorial style, will appeal to new researchers as well as to seasoned veterans. This introduction to psychophysics research methods will be of interest to students, scholars and researchers within sensory neuroscience, vision research, behavioral neuroscience, and the cognitive sciences.

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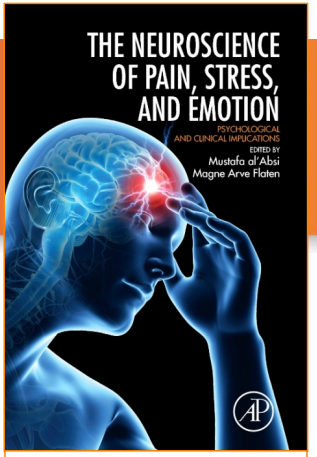


# Neuroscience of Pain, Stress, and Emotion

## *Psychological and Clinical Implications*

Edited by: ***Magne Arve Flaten*** Department of Psychology, University of Tromsø, Norway
***Mustafa al'Absi*** Department of Behavioral Science, University of Minnesota Medical School, Duluth, MN, USA

**This comprehensive book presents updated research on stress, pain, and emotion, all key research areas within both basic and clinical neuroscience, thus allowing those working in the field of psychosomatic medicine to alleviate patient suffering**

**ISBN:** 978-0-12-800538-5
**PUB DATE:** January 2016
**FORMAT:** Hardback
**PAGES:** c. 298
**TRIM:** 6w x 9h

**AUDIENCE**

Researchers, clinicians and advanced students in neuroscience, neurobiology and psychology, as well as pain specialists

**KEY FEATURES**

- Represents the only comprehensive reference detailing the link between pain, stress and emotion, covering the neuroscientific underpinnings, related psychological processes, and clinical implications
- Compiles, in one place, research which promises to improve the methodology of clinical trials and the use of knowledge of pain-stress-emotion effects in order to reduce patients' suffering
- Provides comprehensive chapters authored by global leaders in the field, the broadest, most expert coverage available

**DESCRIPTION**

*Neuroscience of Pain, Stress, and Emotion: Psychological and Clinical Implications* presents updated research on stress, pain, and emotion, all key research areas within both basic and clinical neuroscience. Improved research understanding of their interaction is ultimately necessary if clinicians and those working in the field of psychosomatic medicine are to alleviate patient suffering.

This volume offers broad coverage of that interaction, with chapters written by major researchers in the field. After reviewing the neuroscience of pain and stress, the contents go on to address the interaction between stress and chronic/acute pain, the role of different emotions in pain, neurobiological mechanisms mediating these various interactions, individual differences in both stress and pain, the role of patient expectations during treatment (placebo and nocebo responses), and how those relate to stress modulation.

While there are books on the market which discuss pain, stress, and emotion separately, this volume is the first to tackle their nexus, thus appealing to both researchers and clinicians.

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# The European Research Management Handbook

***Jan Andersen*** Senior Executive Advisor, Science Research and Innovation,University of Copenhagen, Frederiksberg, Denmark
***Kristel Toom*** Vice Head and Researcher, Estonian Academy of Security Sciences, Tallinn, Estonia
***Susi Poli*** Doctoral EdD Candidate at UCL Institute of Education, London, UK
***Pamela F. Miller*** Director, Sponsored Projects Office, University of California at Berkeley, Berkeley, CA, U.S.A.

## Provides frameworks, insight, and guidance on research management and research administration

**ISBN:** 978-0-12-805059-0
**PUB DATE:** June 2017
**FORMAT:** Paperback
**PAGES:** c. 304
**TRIM:** 6w x 9h

**AUDIENCE**

Professional research administrators and support staff in universities and research institutions, Researchers and research groups, and university management as well as those interested in exploring a career in research management or research administration

**KEY FEATURES**

- Offers a deeper understanding of the research management and administrative landscape through single and collective definitions and experiences
- Provides an overview of the research environment and explores the international research arena
- Discusses some of the most complex issues in research management and administration by covering topics such as ethics, innovation, research impact, organizational structures, and processes for the project life cycle

**DESCRIPTION**

*The European Research Management Handbook* addresses the myriad of responsibilities related to research management and administration. The book incorporates narratives from those working in the field to provide insight into the profession. The book also offers a unique perspective on the topic by incorporating global perspectives to address the growing interdisciplinary nature of research collaboration.

*The European Research Management Handbook* outlines practical advice for those in the research management and administration profession at all levels of experience. It is also a useful tool that research institutions and research groups can use to assist in planning and streamlining their research support.

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# ReSearch

## *A Career Guide for Scientists*

***Teresa M. Evans*** PhD, Director, the Office of Career Development, Graduate School of Biomedical Sciences, University of Texas Health and Science Center at San Antonio, San Antonio, TX, USA
***Natalie Lundsteen*** PhD, Director of Graduate Career Development, Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center, Dallas, TX, USA
***Nathan L. Vanderford*** PhD, MBA, Assistant Professor, Department of Toxicology and Cancer Biology; Assistant Dean for Academic Development, College of Medicine; Assistant Director for Research, Markey Cancer Center, University of Kentucky, Lexington, KY, USA

**Inside knowledge on how to effectively leverage skill sets to take that next step in your career**

**ISBN:** 978-0-12-804297-7
**PUB DATE:** June 2017
**FORMAT:** Paperback
**PAGES:** c. 288
**TRIM:** 6w x 9h

**AUDIENCE**

Graduate, medical, and postdoctoral students across the Sciences as well as faculty, advisors, industry professionals, societies, and other organizations who are involved in career counselling, science education programs, and/or mentorship programs. Graduates and professionals in other STEM areas

**KEY FEATURES**

- Fills the knowledge gap in career planning practices for students and early career researchers in the STEM fields, particularly those in the sciences
- Provides global perspectives on seeking career opportunities outside of the United States
- Includes strategies for how to market your transferable skill sets, network, and maximize informational interviews

**DESCRIPTION**

*ReSearch* is a career planning guide and practical tool for graduate students and postdocs in the pursuit of any career. This book provides step-by-step processes for the assessment of career goals and the actions that can be taken in order to achieve them. *ReSearch* includes chapters on the basics of career planning, determining unique selling points, and navigating work-life concerns. This book also includes narratives from a number of perspectives to showcase the variety of career options available.

*ReSearch* is written by experts with inside knowledge of how to effectively leverage skills in order to take that next step in your career, whether you are a recent graduate or are interested in transitioning into something new. This book is also a valuable resource for advisors and careers counselors who mentor students and postdocs about their career plans.

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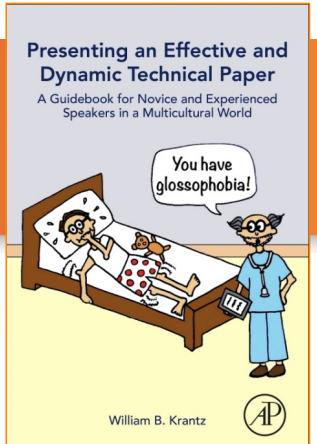


# Presenting an Effective and Dynamic Technical Paper

## *A Guidebook for Novice and Experienced Speakers in a Multicultural World*

***William B. Krantz*** President's Teaching Scholar and Professor Emeritus, University of Colorado, Boulder, CO, USA; Rieveschl Ohio Eminent Scholar and Professor Emeritus, University of Cincinnati, Cincinnati,OH, USA

**A practical, compact guidebook covering the 'nuts and bolts' of effective public speaking from a cross-cultural perspective**

**ISBN:** 978-0-12-805418-5

**PUB DATE:** November 2016

**FORMAT:** Paperback

**PAGES:** c. 96

**TRIM:** 6w x 9h

**AUDIENCE**

Students and researchers across the sciences interested in improving their oral communication skills; in particular non-native English speakers

**KEY FEATURES**

- Discusses best practices in putting together an effective talk
- Focuses on leveraging the speaker's existing skillsets to develop the delivery style that works best for that individual
- Features one-page quick reference guides for giving both formal oral and informal poster presentations
- Addresses cross-cultural communication, as well as particular concerns for non-native English speakers
- Includes a companion site with tools and video examples of formal and informal presentations for further self-guidance

**DESCRIPTION**

*Presenting an Effective and Dynamic Technical Paper: A Guidebook for Novice and Experienced Speakers in a Multicultural World* is intended for inexperienced speakers as well as those aspiring to improve their communication skills in making either formal or informal presentations on a technical subject.

The book focuses on how to make presentations to a cross-cultural audience, including such tactics as how to list the names of the co-authors on your presentation, how to handle eye contact and use humor, both of which can differ across the global spectrum of cultures. The cross-cultural focus of this book relates not only to the audience, but also to the speaker. This book also includes helpful tips for non-native English speakers.

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# Creating a Culture of Accessibility in the Sciences

***Mahadeo A. Sukhai*** Research Fellow and Team Leader, University Health Network, Princess Margaret Hospital, Ontario Cancer Institute, Toronto, ON, Canada
***Chelsea E. Mohler*** Research Consultant, National Educational Association of Disabled Students, Ottawa, ON, Canada

**As a comprehensive guide, this book provides insights and advice on integrating students with disabilities into the STEM fields, with each chapter featuring research and best practices that are interwoven with experiential narratives**

**ISBN:** 978-0-12-804037-9

**PUB DATE:** December 2016

**FORMAT:** Paperback

**PAGES:** c. 316

**TRIM:** 6w x 9h

**AUDIENCE**

University faculty, academic administrators, disability office staff, students with disabilities, and industry professionals in STEM and related disciplines. Additional markets include related academic and professional organizations as well as those involved in professional development training and workshops

**KEY FEATURES**

- Offers a global perspective on making research or work spaces accessible for students with disabilities in the STEM fields
- Discusses best practices on accommodating and supporting students and demonstrates how these practices can be translated across disciplines
- Enhances faculty knowledge of inclusive teaching practices, adaptive equipment, accessibility features, and accommodations in science laboratories, which would enable the safe participation of students with disabilities
- Provides advice for students with disabilities on disclosure and mentoring

**DESCRIPTION**

*Creating a Culture of Accessibility in the Sciences* provides insights and advice on integrating students with disabilities into the STEM fields. Each chapter features research and best practices that are interwoven with experiential narratives.

The book is reflective of the diversity of STEM disciplines (life and physical sciences, engineering, and mathematics), and is also reflective of cross-disability perspectives (physical, sensory, learning, mental health, chronic medical and developmental disabilities).

It is a useful resource for STEM faculty and university administrators working with students with disabilities, as well as STEM industry professionals interested in accommodating employees with disabilities.


# Technical Career Survival Handbook

## *100 Things You Need To Know*

***Peter Burke*** P.E, Consulting Engineer, Self-Employed

**This practical guide provides the information needed to survive a technical career, enabling prospective candidates and those currently in technical careers to explore all technical education possibilities, industries, disciplines, and specialties**

**KEY FEATURES**

- Offers insights on how to pursue and navigate a technical career
- Discusses job searches, interviews, offers, and counteroffers
- Includes day-to-day, in the trenches, job situations that may arise and best practices on how to address them

**DESCRIPTION**

*Technical Career Survival Handbook: 100 Things You Need To Know* provides the information needed to survive a technical career, enabling prospective technical career candidates and those currently in technical careers to explore all technical education possibilities, industries, disciplines, and specialties.

This handbook better equips the reader to deal with the tough situations and decisions they have to make throughout their career. Topics include preparing for the workforce, employment challenges, and dealing with on the job situations. This book is a practical guidebook for scientists, engineers, and technicians who apply the principles of science and mathematics to develop practical solutions to technical problems.

**ISBN:** 978-0-12-809372-6

**PUB DATE:** November 2016

**FORMAT:** Paperback

**PAGES:** c. 268

**TRIM:** 6w x 9h

**AUDIENCE**

Scientists, engineers, and technicians who apply the principles of science and mathematics to develop practical solutions to technical problems.

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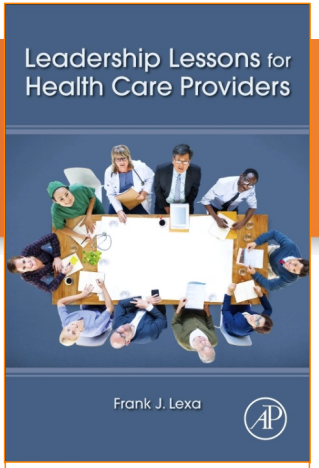



# Leadership Lessons for Health Care Providers

***Frank James Lexa*** Chair, ACR Commission on Practice Leadership and Chairman of the Board, Radiology Leadership Institute Project Faculty, Spain; East Asia Regional Manager, the Global Consulting Practicum & Adjunct Professor of Marketing, The Wharton School, Philadelphia, PA, USA

**This thought-provoking book provides a solid introduction to the nature of medical leadership, addressing common situations that physicians and allied health professionals encounter and providing tactics for handling common leadership conundrums and increasing leadership abilities**

**ISBN:** 978-0-12-801866-8

**PUB DATE:** September 2016

**FORMAT:** Paperback

**PAGES:** c. 214

**TRIM:** 6w x 9h

**AUDIENCE**

Physicians and allied health professionals.Additional markets include related graduate and postgraduate programs, academic and professional organizations as well as those involved in professional development training and workshops

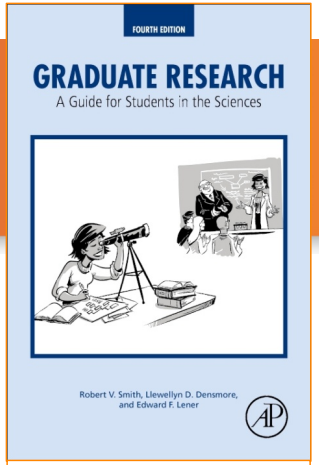
**KEY FEATURES**

- Discusses and offers practical advice on a number of leadership development topics including levels of leadership, different styles and techniques, dealing with conflict, making hard decisions, and setting priorities
- Includes valuable insight from leaders and specialists in the health care field
- Directs readers to additional leadership resources as next steps

**DESCRIPTION**

The rapid changes in health care including novel technologies as well as the changing economic, political, and social landscapes are all forcing physicians as well as most types of health care practitioners to re-think their role in leadership. This is particularly true in the US in recent years, but the same issues are widely prevalent affecting health care workers around the globe. Developing capable medical leaders who can navigate these challenges will be essential.

Physicians and other health care practitioners usually receive little or no leadership training in the course of their education. At the next steps in their training: internship, residency and fellowship, gaining clinical acumen takes precedence over developing other skills that are at the core of leadership training. *Leadership Lessons for Health Care Providers* will allow all types of health professionals to gain a better understanding of what leadership is, how to develop their skills while still early in their careers, how to understand and handle common leadership conundrums and chart a path towards increasing their leadership capabilities as they reach mid-career and beyond. This book will provide a great start for those who are interested in learning more about leadership and includes recommendations for next steps at all stages in leadership work.




# Graduate Research, 4e

## *A Guide for Students in the Sciences*

***Robert V. Smith*** Collaborative Brain Trust University Consulting (CBT UC), Sacramento, CA, USA
***Llewellyn D. Densmore*** Department of Biological Sciences, Texas Tech University, Lubbock, TX, USA
***Edward F. Lener*** University Libraries, Virginia Tech, Blacksburg, VA, USA

**This newly revised go-to resource is for graduate researchers at all stages of study and covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals**

**KEY FEATURES**

- Discusses a broad range of topics including time management, library and literature work, and grant support
- Includes a new chapter on career planning and development with advice on careers in academia, government, and the private sector
- Contains chapters that promote the development of a varied set of communication skills
- Greatly expanded treatment of graduate study and research in international settings

**DESCRIPTION**

*Graduate Research is* an all-in-one resource for prospective and matriculated graduate students in the sciences. The newly revised edition includes updates to every chapter. *Graduate Research* covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals.

*Graduate Research* helps readers navigate the multidimensional and interdisciplinary world of scientific research and it is an invaluable resource for graduate researchers as well as those in advising or mentoring roles.

**ISBN:** 978-0-12-803749-2
**PREVIOUS EDITION ISBN:** 9780295977058
**PUB DATE:** February 2016
**FORMAT:** Paperback
**PAGES:** c. 288
**TRIM:** 6w x 9h

**AUDIENCE**

Graduate student, graduate advisors, and mentors across the Sciences

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# International Review of Neurobiology, Vol 132

## *Parkinson's Disease*

Edited by: ***Kailash Bhatia*** University College London
***Ray K Chaudhuri*** King's College London
***Maria Stamelou*** Philipps University

**Provides an up-to-date look at new developments and research in the field of Parkinson's Disease**

**ISBN:** 978-0-12-809714-4
**PUB DATE:** June 2016
**FORMAT:** Hardback
**PAGES:** c. 300
**TRIM:** 6w x 9h

**AUDIENCE**

Neurologists, Medical Students, Allied Health Specialists, Geriatricians, Pharma Industry

**KEY FEATURES**

- Contains cutting-edge develpoments in the field
- Presents both motor and non-motor coverage

**DESCRIPTION**

*Parkinson's Disease* addresses new developments in the study of this disease, highlighting how the lives of people with Parkinson's have undergone dramatic changes in the last decade. Such changes involve greater and clearer understanding of the prodromal stage, genetics, strategies, routes of treatment, and development of non dopaminergic therapies, both medical and surgical.

**SERIALS**

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# International Review of Neurobiology, Vol 131

## *Gut Microbiome and Behavior*

Edited by: ***John F. Cryan*** Alimentary Pharmabiotic Centre, University College Cork, Ireland
***Gerard Clarke*** Department of Psychiatry, University College Cork, Ireland

**Presents important scientific endeavors that help readers understand the impact of the gut microbiome on the brain and behavior**

**KEY FEATURES**

- Contains the expertise of contributors in the field who discuss the gut microbiome and its effect on the brain and behavior
- Defines the scope of the influence of the gut microbiome and the potential mechanisms and implications
- Charts the way forward in this frontier area of research

**DESCRIPTION**

*Gut Microbiome and Behavior*, the latest volume in the *International Review of Neurobiology* series, provides a comprehensive overview of the gut microbiome on the brain and behavior, fully encapsulating the latest research in the field and defining the scope of this influence to outline potential mechanisms and possible implications.

**ISBN:** 978-0-12-803949-6
**PUB DATE:** November 2016
**FORMAT:** Hardback
**PAGES:** c. 408
**TRIM:** 6w x 9h

**AUDIENCE**

Neuroscientists, Psychiatrists, Neurogastroenterologists, Microbiologists, Nutritionists, and researchers within developmental Biology and Medicine

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# International Review of Neurobiology, Vol 130

***Nanotechnology and the Brain***

Edited by: ***Khuloud Al-Jamal*** Institute of Pharmaceutical Science, King's College London, UK

**This series focuses on the application of nanotechnology in the brain, shedding light on blood brain barrier biology and nanoparticle engineering**

**KEY FEATURES**

- Covers a wide range of nanoparticles in dedicated chapters
- Focuses on the application of nanotechnology in the brain, shedding light on blood brain barrier biology and nanoparticles engineering
- Contains the diverse expertise of renowned contributors

**DESCRIPTION**

*Nanotechnology and the Brain*, the latest edition in the *International Review of Neurobiology* series is well-known for its appeal to neuroscientists, clinicians, psychologists, physiologists, and pharmacologists. Written by an internationally renowned expert in the field, this volume focuses on the application of nanotechnology in the brain, covering blood brain barrier biology and how nanoparticles should be engineered to tackle this barrier.

**ISBN:** 978-0-12-804636-4

**PUB DATE:** September 2016

**FORMAT:** Hardback

**PAGES:** c. 320

**TRIM:** 6w x 9h

**AUDIENCE**

Chemical engineers, biologists, materials scientists, pharmacists, medics

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# International Review of Neurobiology, Vol 129

## *Imaging the Addicted Brain*

Edited by: ***Natalie Zahr*** SRI International, CA, USA
***Eric Peterson*** SRI International, CA, USA

**This book reviews the effects of addiction to a broad range of substances and behaviors, including food, gambling, tobacco, and commonly used psychogenic agents on the brain, using the rapidly growing field of medical imaging to bring this relatively new technology to a wider audience**

**ISBN:** 978-0-12-803914-4
**PUB DATE:** August 2016
**FORMAT:** Hardback
**PAGES:** c. 238
**TRIM:** 6w x 9h

**AUDIENCE**

Psychologists through neuroscientists to imaging scientists. Also, with such a broad focus, the hope is that the lay audience could also understand the results as well.

**KEY FEATURES**

- Offers a unique perspective on how addiction affects the brain
- Covers a broad scope of addictions, including food, gambling, tobacco, and common psychogenic agents with a focus on their effects on the brain
- Focuses on the use of medical imaging methods, especially MRI, to explore and explain addiction in the brain

**DESCRIPTION**

*Imaging the Addicted Brain*, the latest volume in the *International Review of Neurobiology* series will appeal to neuroscientists, clinicians, psychologists, physiologists, and pharmacologists.

Led by an internationally renowned editorial board, this important serial publishes both eclectic volumes made up of timely reviews and thematic volumes that focus on recent progress in a specific area of neurobiology research.

This volume focusses on the imaging of the brain addicted to food, gambling, tobacco, and opiates.

**SERIALS**

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# International Review of Neurobiology, Vol 128

***Big on Bk: Current Insights into the Function of Large Conductance Voltage- and Ca2+- Activated K+ Channels at the Molecular, Cellular and Systemic Levels***

Edited by: ***Candice Contet*** The Scripps Research Institute, La Jolla, USA

**This book is a comprehensive overview of current insights into the function of large conductance voltage- and ca2+- activated k+ channels at the molecular, cellular and systemic levels**

**KEY FEATURES**

- The latest volume in the *International Review of Neurobiology* series
- Provides a broad coverage of subject matter at the molecular, cellular and systemic levels
- Presents an ideal resource for researchers and practitioners, and those just entering the field

**DESCRIPTION**

*Big on Bk: Current Insights into the Function of Large Conductance Voltage- and Ca2+- Activated K+ Channels at the Molecular, Cellular and Systemic Levels*, a volume in the *International Review of Neurobiology* series, is a comprehensive overview of the state-of-the-art research into this area. It reviews current knowledge and understanding, and also provides a starting point for researchers and practitioners entering the field.

**ISBN:** 978-0-12-803619-8

**PUB DATE:** May 2016

**FORMAT:** Hardback

**PAGES:** c. 536

**TRIM:** 6w x 9h

**AUDIENCE**

Primarily medical scientists and physicians (diabetologists, endocrinologists, neurologists, internists)

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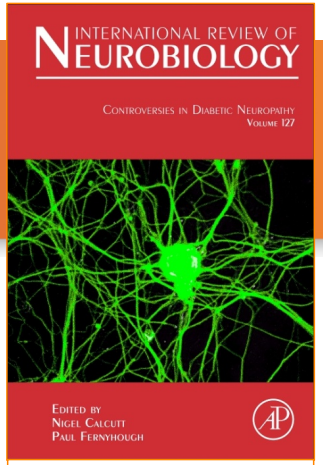


# International Review of Neurobiology, Vol 127

## *Controversies In Diabetic Neuropathy*

Edited by: ***Nigel Calcutt*** University of California at San Diego, CA, USA
***Paul Fernyhough*** University of Manitoba, Winnipeg, Canada

**This book offers a new perspective on current and future research in diabetic neuropathy, written by experts who provide a personal critique of their field plus a running commentary that helps make the text a cohesive analysis of basic and clinical research**

**KEY FEATURES**

- Offers a comprehensive overview of state-of-the-art research on diabetic neuropathy
- Provides personal critiques from experts in each field
- Provides a running commentary by editors throughout the book
- Explores a range of topics including mechanisms of nerve damage, neuropathic pain, new therapies, clinical trials, and animal models of diabetic neuropathy

**DESCRIPTION**

This latest volume in the *International Review of Neurobiology* series, provides a comprehensive overview of the state-of-the-art research on the topic. It reviews the current knowledge and understanding in the field, presenting a starting point for researchers and practitioners entering the field.

**ISBN:** 978-0-12-803915-1

**PUB DATE:** April 2016

**FORMAT:** Hardback

**PAGES:** c. 376

**TRIM:** 6w x 9h

**AUDIENCE**

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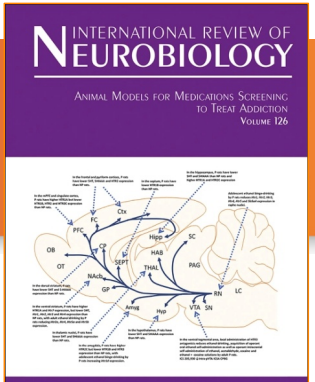


# International Review of Neurobiology, Vol 126

## *Animal Models for Medications Screening to Treat Addiction*

Edited by: ***Richard L Bell*** Associate Professor, Department of Psychiatry, Indiana University School of Medicine, Indianapolis, IN, USA
***Shafiqur Rahman*** Professor, Department of Pharmaceutical Sciences, College of Pharmacy, South Dakota State University, Brookings, SD, USA

**This latest volume in the *International Review of Neurobiology* series provides a comprehensive overview of *Animal Models for Medications Screening to Treat Addiction*, fully encapsulating the latest research in the field and containing useful descriptions of various models associated with many forms of drug addiction.**

**ISBN:** 978-0-12-804013-3
**PUB DATE:** April 2016
**FORMAT:** Hardback
**PAGES:** c. 542
**TRIM:** 6w x 9h

**AUDIENCE**

Neurobiologists, neuroscientists, pharmacologists, addiction scientists, and researchers studying the animal models and drug discovery research for drug addiction as well as clinical researchers in academia, industry or the government interested in behavioral neuroscience and/or behavioral genetics, especially as it relates to Addiction Medicine and Addiction Psychiatry. This book can be used as a reference book for medication development research in the addiction field.

**KEY FEATURES**

- Brings together information on the current state of medication development for drug addiction using animal models
- Contains comprehensive descriptions of various models associated with many forms of drug addiction
- Adds new information for translational research in the field of drug addiction

**DESCRIPTION**

*Animal Models for Medications Screening to Treat Addiction*, the latest volume in the *International Review of Neurobiology* series, provides a comprehensive overview of the state-of-the-art research on the topic. It reviews the current knowledge and understanding in the field, presenting a starting point for researchers and practitioners entering the field.

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# Progress in Brain Research, Vol 231

## *Sport and the Brain: The Science of Preparing, Enduring and Winning, Part A*

Edited by: ***Vincent Walsh*** University College London, UK
***Mark Wilson***
***Beth Parkin***

**This book reflects recent advancements in the understanding of how elite athletes consistently manage to prepare for and perform at peak levels under the demands of competition. It takes a multi-disciplinary approach focusing on aspects of psychology, neuroscience, skill learning, talent development and physiology**

**ISBN:** 978-0-12-811827-6

**PUB DATE:** July 2017

**FORMAT:** Hardback

**PAGES:** c. 350

**TRIM:** 6w x 9h

**AUDIENCE**

Academics and students of performance psychology, sport expertise, skill acquisition, and neuroscience; and practitioners (coaches, sport scientists, performance directors, business managers) interested in understanding the building blocks of outstanding individual and team performance

**KEY FEATURES**

- Volume 1 of two volumes focuses on Sport and the Brain
- Expertise and international focus of contributors
- Volume 1 adopts the novel approach of having a target article with critical commentaries on the lessons learned from Great British multiple gold medalists at Olympics and World Championships
- The target article is a landmark paper examining the psychosocial trajectories of super-elite athletes, the impact of negative life events, career turning points, motivation, need for success, personality characteristics and the psychological strategies used

**DESCRIPTION**

This book reflects recent advancements in the understanding of how elite athletes consistently manage to prepare for and perform at peak levels under the demands of competition. It takes a multi-disciplinary approach focusing on aspects of psychology, neuroscience, skill learning, talent development and physiology.

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# Progress in Brain Research, Vol 229

## *Motivation: Theory, Neurobiology and Applications*

Edited by: ***Bettina Studer*** Mauritius Hospital Meerbusch, Germany
***Stefan Knecht*** Mauritius Hospital Meerbusch, Germany

**Presents recent advances on the topic of motivation from the fields of behavioral neuroscience, neuroeconomics, psychology, psychiatry, and more**

**ISBN:** 978-0-444-63701-7

**PUB DATE:** October 2016

**FORMAT:** Hardback

**PAGES:** c. 462

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

This volume targets a broad and interdisciplinary audience, including researchers in affective, behavioural, and clinical neuroscience and in psychology; health care professionals( in particular neurologists, physiotherapists, neuropsychologists and psychiatrists); teachers and educational psychologists; and sports coaches

**KEY FEATURES**

- Provides an integration of the neurosciences, their clinical challenges, and applicable research
- Includes both an interdisciplinary and integrative nature
- Contains a broad array of subject matter that will be of interest to a large target audience
- Presents contributions from experts in their respective fields

**DESCRIPTION**

*Motivation: Theory, Neurobiology and Applications* is inspired by a question central to health care professionals, teachers, parents, and coaches alike, "How can an individual be motivated to perform a given activity or training?" It presents novel measurements of motivation developed in psychology and economics, recent insights into the neurobiology of motivation, and current research on applications designed to boost motivation in neurorehabilitation, education, and sports.

In addition, tactics on how to connect these different research and knowledge fields within a common (theoretical) framework of motivation is discussed. Thus, in short, the book provides an integrative, interdisciplinary, up-to-date accounting on the neurobiology of motivation and how it might be boosted.

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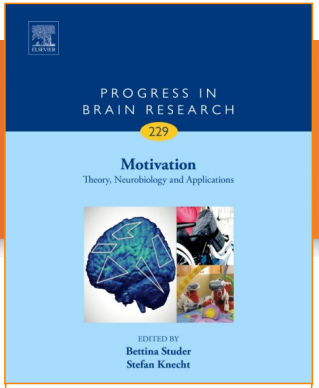


# Progress in Brain Research, Vol 228

## *Brain-Computer Interfaces: Lab Experiments to Real-World Applications*

Edited by: ***Damien Coyle*** School of Computing and Intelligent Systems, Ulster University, Derry, UK

**This new volume in the *Progress in Brain Research* series provides a comprehensive review of the most recent progress in brain-computer interfaces**

**KEY FEATURES**

- Explores new trends and developments in brain research
- Enhances the literature of neuroscience by further expanding this established, ongoing international series
- Examines major areas of basic and clinical research within the field

**DESCRIPTION**

*Brain-Computer Interfaces: Lab Experiments to Real-World Applications*, the latest volume in the *Progress in Brain Research* series, focuses on new trends and developments. This established international series examines major areas of basic and clinical research within the neurosciences, as well as popular and emerging subfields.

**ISBN:** 978-0-12-804216-8

**PUB DATE:** August 2016

**FORMAT:** Hardback

**PAGES:** c. 416

**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, psychologists, neurologists

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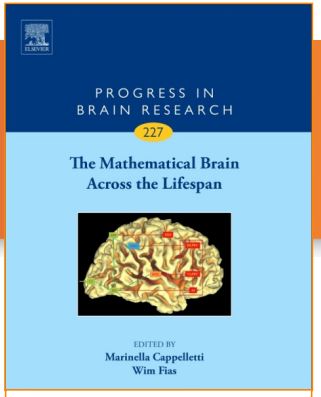


# Progress in Brain Research, Vol 227

## *The Mathematical Brain Across the Lifespan*

Edited by: ***Marinella Cappelletti*** Marinella Cappelletti, Goldsmiths College, University of London, London, UK
***Wim Fias*** Ghent University, Faculty of Psychology and Educational Sciences, Department of Experimental Psychology, Ghent, Belgium

**ISBN:** 978-0-444-63698-0
**PUB DATE:** June 2016
**FORMAT:** Hardback
**PAGES:** c. 400
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, psychologists, neurologists

**This volume in the *Progress in Brain Research* series provides a comprehensive review of the most recent progress in the mathematical brain across the lifespan.**

**KEY FEATURES**

- Provides a comprehensive review of the most recent progress in the mathematical brain across the lifespan
- Explores new trends and developments in the field
- Enhances the literature of neuroscience by further expanding the established, ongoing international series *Progress in Brain Research*

**DESCRIPTION**

*The Mathematical Brain Across the Lifespan* is the latest volume in the *Progress in Brain Research* series that focuses on new trends and developments. This established international series examines major areas of basic and clinical research within the neurosciences, as well as popular and emerging subfields.

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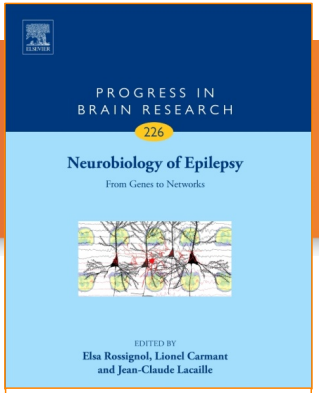


# Progress in Brain Research, Vol 226

## *Neurobiology of Epilepsy: From Genes to Networks*

Edited by: ***Elsa Rossignol***
***Lionel Carmant***
***Jean-Claude Lacaille***

**ISBN:** 978-0-12-803886-4
**PUB DATE:** June 2016
**FORMAT:** Hardback
**PAGES:** c. 238
**TRIM:** 7.5w x 9.25h

**AUDIENCE**
Neuroscientists, psychologists, neurologists

**This volume in the *Progress in Brain Research* series provides a comprehensive review of the most recent progress in the neurobiology of epilepsy with a particular emphasis on the connection between genes and networks.**

**KEY FEATURES**

- Explores new trends and developments in the neurobiology of Epilepsy
- Enhances the literature of neuroscience by further expanding the established, ongoing international series
- *Progress in Brain Research*
- Examines major areas of basic and clinical research within the field

**DESCRIPTION**

*Neurobiology of Epilepsy: From Genes to Networks* is the latest volume in the *Progress in Brain Research* series that focuses on new trends and developments. This established international series examines major areas of basic and clinical research within the neurosciences, as well as popular and emerging subfields.

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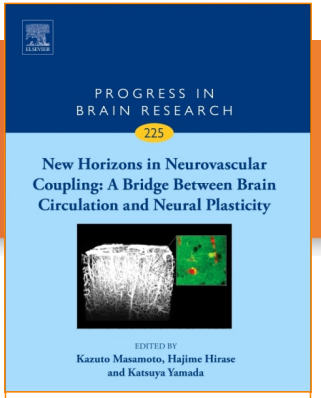


# Progress in Brain Research, Vol 225

## *New Horizons in Neurovascular Coupling: A Bridge Between Brain Circulation and Neural Plasticity*

Edited by: ***Kazuto Masamoto*** University of Electro-Communication, Tokyo, Japan
***Hajime Hirase*** RIKEN Brain Science Institute, Saitama, Japan
***Katsuya Yamada*** Hirosaki University Graduate School of Medicine, Aomori, Japan

**ISBN:** 978-0-444-63704-8
**PUB DATE:** April 2016
**FORMAT:** Hardback
**PAGES:** c. 282
**TRIM:** 7.5w x 9.25h

**AUDIENCE**
Neuroscientists, psychologists, neurologists

**This volume provides a comprehensive review of the most recent progress in neurovascular coupling, with particular emphasis on connections between brain circulation and neural plasticity**

**KEY FEATURES**

- Explores new trends and developments in basic and clinical research in the neurovascular coupling subfield of neuroscience
- Uses an integrated approach to review and summarize recent progress
- Emphasizes potential applications in a clinical setting
- Enhances the literature of neuroscience by further expanding the established, ongoing international series *Progress in Brain Research*

**DESCRIPTION**

*New Horizons in Neurovascular Coupling: A Bridge Between Brain Circulation and Neural Plasticity* is the latest volume in the *Progress in Brain Research* series that focuses on new trends and developments in neurovascular coupling. This established international series examines major areas of basic and clinical research within the neurosciences, as well as popular and emerging subfields. This volume takes an integrated approach to review and summarize some of the most recent progress reported on the connection between brain circulation and neural plasticity.

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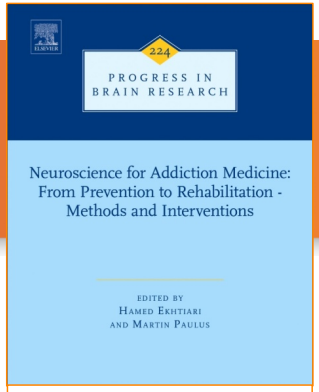


# Progress in Brain Research, Vol 224

## *Neuroscience for Addiction Medicine: From Prevention to Rehabilitation - Methods and Interventions*

Edited by: ***Hamed Ekhtiari*** Iranian National Center for Addiction Studies, Tehran University of Medical Sciences, Tehran, Iran
***Martin Paulus*** Laureate Institute for Brain Research, Tulsa, OK, USA

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**This volume provides a comprehensive review of the most recent progress in addiction research, with particular emphasis on potential applications in a clinical setting**

**ISBN:** 978-0-444-63716-1
**PUB DATE:** January 2016
**FORMAT:** Hardback
**PAGES:** c. 468
**TRIM:** 6w x 9h

**AUDIENCE**
Neuroscientists, psychologists, neurologists

**KEY FEATURES**

- Explores new trends and developments in basic and clinical research in the addiction subfield of neuroscience
- Uses an integrated approach to review and summarize recent progress
- Emphasizes potential applications in a clinical setting
- Enhances the literature of neuroscience by further expanding the established international series *Progress in Brain Research*

**DESCRIPTION**

*Neuroscience for Addiction Medicine: From Prevention to Rehabilitation - Methods and Interventions* is the latest volume from *Progress in Brain Research* focusing on new trends and developments in addiction research. This established international series examines major areas of basic and clinical research within neuroscience, as well as popular emerging subfields such as addiction. This volume takes an integrated approach to review and summarize some of the most recent progress from the subfield of addiction research, with particular emphasis on potential applications in a clinical setting.

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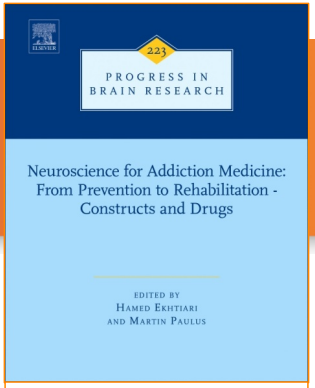


# Progress in Brain Research, Vol 223

## *Neuroscience for Addiction Medicine: From Prevention to Rehabilitation - Constructs and Drugs*

Edited by: ***Hamed Ekhtiari*** Iranian National Center for Addiction Studies, Tehran University of Medical Sciences, Tehran, Iran
***Martin Paulus*** Laureate Institute for Brain Research, Tulsa, OK, USA

**ISBN:** 978-0-444-63545-7
**PUB DATE:** January 2016
**FORMAT:** Hardback
**PAGES:** c. 328
**TRIM:** 7.5w x 9.25h

**AUDIENCE**

Neuroscientists, psychologists, neurologists

**This volume provides a comprehensive review of the most recent progress in addiction research, with particular emphasis on potential applications in a clinical setting**

**KEY FEATURES**

- Explores new trends and developments in basic and clinical research in the addiction subfield of neuroscience
- Uses an integrated approach to review and summarize recent progress
- Emphasizes potential applications in a clinical setting
- Enhances the literature of neuroscience by further expanding the established international series *Progress in Brain Research*

**DESCRIPTION**

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