



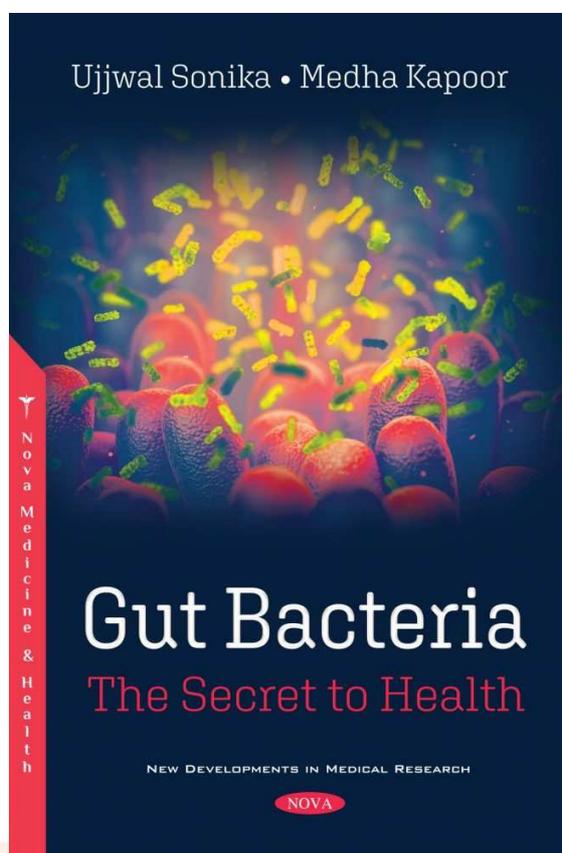
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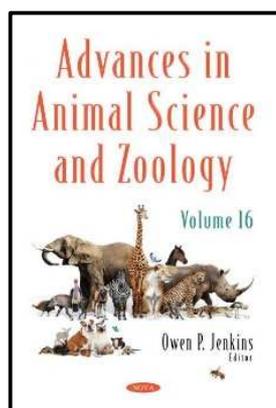
TITLES PUBLISHED BY NOVA SCIENCE

- Advances in Animal Science & Zoology
- Advances in Medicine & Biology
- Animal Science, Issues & Research
- Bacteriology Research Developments
- Biochemistry & Molecular Biology in the Post Genomic Era
- Biochemistry Research Trends
- Cell Biology Research Progress
- Herbs & Herbalism
- Horizons in Neuroscience Research
- Infectious Diseases & Microbiology
- Marine & Freshwater Biology
- Microbiology Research Advances
- Neurology - Laboratory & Clinical Research Developments
- Neuroscience Research Progress
- New Developments in Medical Research
- Plant Science Research & Practices
- Stem Cells - Laboratory & Clinical Research

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Advances in Animal Science & Zoology



Advances in Animal Science and Zoology Volume 16

Edited by Owen P. Jenkins

Advances in Animal Science and Zoology. Volume 16 begins with a focus on entomopathogenic nematodes of the families Steinernematidae and Heterorhabditidae, which can be used successfully to control a wide range of agricultural insect pests.

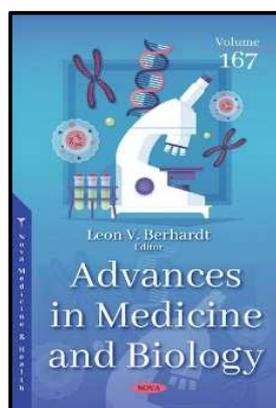
Following this, the authors discuss the potential use of silver nanoparticles for the control of mosquito vectors and other coinhabiting species. The green synthesis of these nanoparticles, along with spectroscopic and microscopic techniques employed for primary and secondary phase measurements, is considered at length.

The metathoracic flight apparatus of the honey bee *Apis mellifera* is discussed, representing a highly specialized system for turning manoeuvres which is capable of generating unilateral modifications of the aerodynamic effect of the whole double-wing.

Novel advancements in regenerative engineering utilizing various biomaterials and engineering techniques are discussed, offering a hopeful outlook for patients with severe urologic dysfunction or damage with limited options.

HB 9781536187137 £229.99 December 2020 Nova Science Publishers 218 pages

Advances in Medicine & Biology



Advances in Medicine and Biology

Edited by Leon V. Berhardt

This compilation opens with a review of the current knowledge regarding the impact of endocrine disruptors on human health, as well as the mechanisms contributing to it.

The authors emphasize the evidence of aquaporin modulation by hypoxia and erythropoietin, as these water channels are increasingly valued as potential biomarkers of disease, as well as pharmacological targets for the treatment of brain and renal injuries, cardiovascular disorders and cancer.

Later, the safety and tolerability of adalimumab demonstrated in pivotal phase III clinical trials is examined, along with long-term follow up data from open-label extensions and the ESPRIT registry.

Adalimumab for the treatment of ankylosing spondylitis and peripheral spondyloarthritis is also discussed.

The authors go on to study the types, causes, effect and problems related to polycystic ovary syndrome.

The closing study deals with the relationship between reactive oxygen species and male fertility, providing some futuristic approaches for better research in the field.

Volume 167 - HB 9781536184105 £229.99 September 2020 Nova Science Publishers 262 pages

Volume 168 - HB 9781536184549 £229.99 October 2020 Nova Science Publishers 221 pages

Volume 169 - HB 9781536186079 £229.99 October 2020 Nova Science Publishers 210 pages

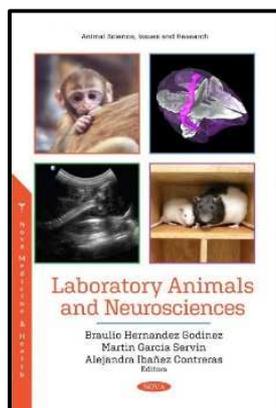
Volume 170 - HB 9781536187120 £229.99 November 2020 Nova Science Publishers 274 pages

Volume 171 - HB 9781536187366 £229.99 November 2020 Nova Science Publishers 229 pages

Volume 172 - HB 9781536187724 £229.99 November 2020 Nova Science Publishers 222 pages

Volume 173 - HB 9781536187885 £229.99 November 2020 Nova Science Publishers 205 pages

Animal Science, Issues & Research



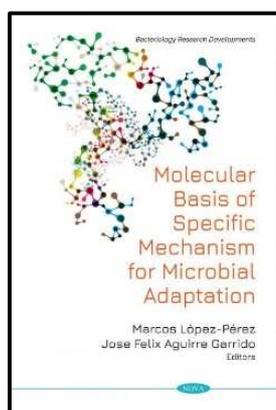
Laboratory Animals and Neurosciences

Edited by Alejandra Ibanez Contreras, Braulio Hernandez Godinez, Martin Garcia Servin

Laboratory animals are fundamental in learning and teaching within the various areas of neuroscience research. This from its proper management, animal welfare, standardization of protocols, use of the best biomodel in experimentation. There are many different areas of study within neurosciences today. However, any use of any biomodel must be based on the context of the three Rs (Refinement, Reduction and Replacement). The objective of this book is to make known through different chapters the use of different laboratory animals in standardized research lines applied to neurosciences in different contexts and applications in basic research.

HB 9781536184624 £211.99 October 2020 Nova Science Publishers 305 pages

Bacteriology Research Developments



Molecular Basis of Specific Mechanism for Bacterial Adaptation

Edited by Marcos López-Pérez

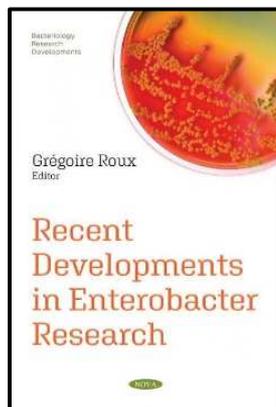
Since the appearance of Darwin's book, "The Origin of Species," adaptation is one of the processes that explains the diversity of species in ecosystems. Adaptive phenomena in the 19th century and until the mid-20th century have been analyzed in macroscopic biological systems, however since the second half of the 20th century and to date the development of disciplines such as Molecular Biology, has allowed us to delve into the mechanisms that regulate cell physiology.

The molecular bases that allow explaining the adaptation processes of microorganisms to their environment have special relevance, because through their analysis it is possible to size the complexity of these mechanisms that involve receptors of a protein nature associated with transduction chains that transport the information flow to genomic DNA, and which subsequently involves the emission of a response through the expression of specific genes.

From the point of view of the adaptive phenomenon analysis, the approach through the molecular bases makes it possible to understand the enormous diversity of the microbial world. Mainly for two reasons, on the one hand the presence of micro gradients in the bacterial ecological niches that are continuously fluctuating, which forces the microorganisms to a rapid adaptation phenomenon. And on the other hand, horizontal gene transfer phenomena, which allow bacteria the information exchange. These two elements carry great intensity in establishing new relationships. This phenomenon is especially relevant if it is related to a concept that Darwin cites in the Origin of Species, "The tangled riverbank", where it is emphasized that the new interactions establishment is the basic driving force for the new species generation. This mechanism is explained by the positive feedback loop generation, whereby ecosystems with high levels of biological diversity generate new interactions that lead to new species, which in turn tends to make the ecosystem network more complex. This complexity analyzed in its molecular bases allows to generate new research questions that can be applied to other knowledge areas, such as Biotechnology.

The analysis of the molecular bases of the microorganisms adequacy, makes it possible to identify and characterize mechanisms that implemented in different pharmaceutical areas and agricultural industry has led to the product generation with high added value, a clear example of this economic development is the enzyme industry and even recombinant protein production.

PB 9781536187519 £87.99 November 2020 Nova Science Publishers 158 pages



Recent Developments in Enterobacter Research

Edited by Grégoire Roux

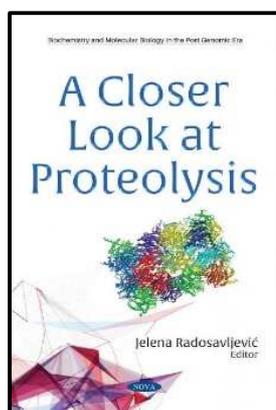
Enterobacter is a relatively lesser known member of family Enterobacteriaceae with at least fifteen species more or less involved in different human infections. As little knowledge is available about its pathogenicity and virulence factors, this compilation discusses the factors and genes involved.

The plants and microbes with antimicrobial potential in the synthesis of nanoparticles for the control of pathogenic Enterobacteriaceae are highlighted, and the authors discuss how, to overcome the complexities regarding antibiotic therapies and multiple drug resistance, there is a dire need to develop some novel clinical approaches and strategies.

The factors causing multi-drug resistance are highlighted, including under or overuse of antibiotics, prolonged use of antibiotics, poor infection control, poor hygiene and sanitation.

PB 9781536186154 £87.99 October 2020 Nova Science Publishers 188 pages

Biochemistry & Molecular Biology in the Post Genomic Era



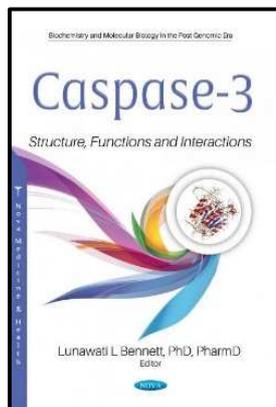
A Closer Look at Proteolysis

Edited by Jelena Radosavljevic

The book “*A closer look at proteolysis*” is conceived as a review of modern knowledge from various fields related to proteolytic processes. Due to the simple approach to explaining various aspects of the topics related to proteolysis, it will be of interest to a wide audience, as well for the scientific community. The first chapter provides an overview of basic concepts related to proteolysis, and the classification of proteases with an emphasis on proteases that have been identified as key in various pathophysiological conditions. After that, in the second chapter, the reader is introduced to proteases that participate in the development of malignancy. The proteases that are perceived as potential candidates for the development of anticancer treatments are highlighted. The third chapter provides an insight into the basics of intracellular proteolysis, with an emphasis on proteolysis of the intrinsically disordered proteins and the consequences that proteolysis of these proteins has in plant cells particularly. In the fourth chapter, the authors provide the latest knowledge on the possibility of using a standard protease for mass spectrometry to determine post-translational modifications of proteins, which is the most recent challenge in proteomics-based research.

Although often used as therapeutics, peptides and proteins are susceptible to proteolysis under physiological conditions, so the design of drugs that mimic the action of proteins and peptides is a big challenge for medicinal chemists. In the fifth chapter, the authors elaborate on the ways to overcome proteolysis in potential therapeutic agents, using the rational design of modern peptidomimetics. The authors of the sixth chapter look at the correlation between the stability to proteolytic digestion and the allergenicity of food proteins. Chapters seven and eight are devoted to microbial proteases. The author of the seventh chapter gives an overview of the yeast proteases characterized so far, while the authors of the eighth chapter consider the possibilities for the production of purification of *Bacillus* proteases and their application in various biotechnological processes. In the last, ninth chapter, the technological significance of proteolytic processes in the food industry is emphasized. The authors presented methodologies that can be used to determine different bioactive peptides produced during cheese ripening.

HB 9781536186772 £211.99 October 2020 Nova Science Publishers 368 pages



Caspase-3 Structure, Functions and Interactions

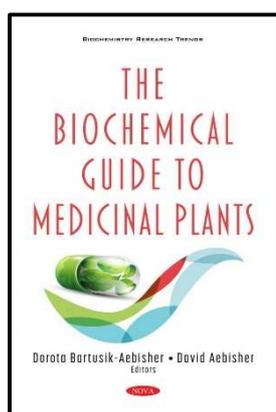
Edited by Lunawati L. Bennett

“*Caspase 3: Structure, Functions and Interactions*” is a book designed as an educational resource for researchers and health care providers who want to learn more about caspase 3. Physicians, pharmacists, other health care professionals can benefit from learning about the function of caspase 3 and its role in diseases and possible treatment options of using caspase 3-like compounds. New or seasoned scientists with research interests in caspases can learn novel ideas or interventions using caspase 3. Caspases are a family of enzymes that play an important role in developing normal organ formation and function, maintaining homeostasis, and regulating cell death and inflammation. There are 14 known caspase enzymes in mammals, and 12 present in humans. Each caspase varies in purpose and mechanism of action. Caspase-3 is a key cysteine-aspartic protease that is largely known for its role in executing cell death or apoptosis.

There are a total of 8 chapters in the book. Chapter 1 introduces the caspase family, their classification, regulation, and role in apoptosis. Chapter 2 discusses caspase-3 role in causing or preventing diseases such as cardiac, diabetes, and cancer. Chapter 3 highlights the emerging roles of caspase-3 in biological processes beyond cell death. Complex regulatory mechanisms are required to coordinate timely and specific activation of caspase 3. As cancer continues to escalate as a major public health concern, caspase 3 role as the prominent executioner of apoptosis plays a central role as a key cellular protein as discussed in Chapter 4. Chapter 5 highlights our understanding on the activation of caspase 3/9 in starfish unfertilized eggs which elucidate the relationship of apoptosis in the vertebrates and nematodes. Chapter 6 discusses the interaction of caspase 3 with apoptotic peptide known as (KLAKLAK)₂. Because of the cationic and amphipathic nature of (KLAKLAK)₂, this peptide has the unique ability to cause the formation of apoptosome. Chapter 7 identifies caspase 3 role in central nervous system, aging, regeneration of neurons, and in Alzheimer’s, Parkinson’s, and other neurodegenerative diseases. Chapter 8 discusses biomarker and methods to detect caspase 3, and its interaction with different substrates and compounds.

PB 9781536186109 £87.99 October 2020 Nova Science Publishers 150 pages

Biochemistry Research Trends

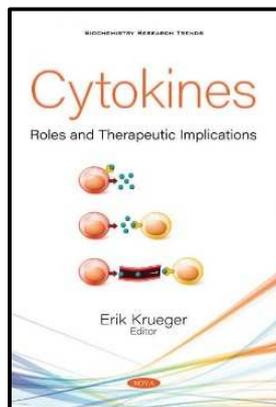


The Biochemical Guide to Medicinal Plants

Edited by Dorota Bartusik-Aebischer

The Biochemical Guide to Medicinal Plants presents the study of medicinal plants and organic chemistry, forming a bridge between the biology and chemistry of medicinal plants by studying complex chemical interactions. The book consists of 45 chapters, each describing one medicinal plant with figures. We present species of herbaceous and woody plants found on various continents and in various habitats, presenting their various adaptations to the environment. The book contains information about plants’ range, appearance, and biological and ecological characteristics, and the descriptions are enriched with surprising curiosities. The book also contains data on the plants’ life spans and flowering periods. Plants used as spices, plants that have no flowers, forest and meadow plants, and plants with medicinal and poisonous properties are described. The reader will learn about the properties of medicinal plants characteristic for each season. This book shows the beauty of plants used in medicine, with their richness of shape, color and fragrance.

HB 9781536189025 £211.99 December 2020 Nova Science Publishers 301 pages



Cytokines Roles and Therapeutic Implications

Edited by Erik Krueger

Cytokines are commonly referred to as the “language of intercellular interaction” since they send signals and commands to the cells to perform certain functions. In this compilation, the authors discuss how cytokines have demonstrated different patterns of production and interaction with other cytokines; therefore, cytokines can be considered as diagnostic markers and possible targets for therapeutic measures.

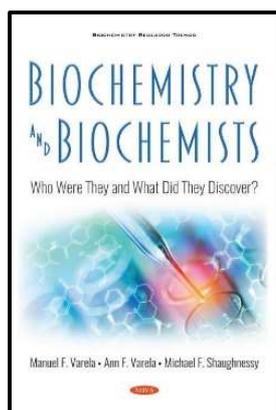
The authors illuminate the role of cytokines in different physiological circumstances affecting the onset, development and resolution of inflammation associated with inflammatory bowel disease.

The administration of cytokines as therapeutics has proven potential in the treatment of cancer and infectious and non-infectious disease.

The authors discuss cytokine profiles and their signaling in the autoimmune disease Guillain-Barre syndrome, and the potential of using this specific information for developing new therapeutic strategies.

The concluding study focuses on malignant breast cancer, the most common cancer in women worldwide. In recent decades, many advances have occurred in understanding the role of cytokines in this cancer, with several studies on new diagnostic and prognostic markers and their applications as a target in treatment.

PB 9781536190366 £87.99 December 2020 Nova Science Publishers 185 pages



Biochemistry and Biochemists Who Were They and What Did They Discover?

Michael F. Shaughnessy

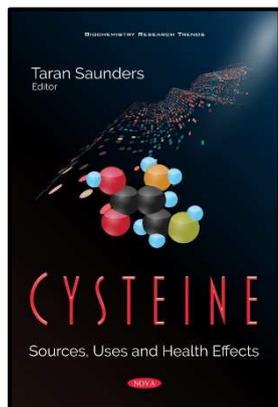
The book *Biochemistry and Biochemists: Who Were They and What did they Discover* is an series of twenty five reviews regarding the top twenty five biochemists of the last two hundred years. The book chronicles the work and discoveries of research scientists from various parts of the world (Severo Ochoa of Spain, John Earnest Walker of Great Britain, Luis Leloir of France, Jens Skou of Denmark as well Masayusa Nomura of Japan). Some of these biochemists did foundational work (Albert Szent-Gyorgy in the realm of vitamin C) and others did exemplary work into some of the most important realms of their time (such as Dorothy Hodgkin and her explorations into the structures of penicillin and insulin). Enzyme kinetics was explored and researched by Maud Menten and Leonor Michaelis.

The lives and explorations of these individuals as well as relevant anecdotes regarding their lives are explored in this book. For example, Jakub Karos Parnas, a well known scholar and researcher died in the famous Lyubyanka Prison in Moscow, although the exact cause of his death may never be known. Luis Leloir was born in the shadow of the Arc de Triomphe in Paris and went on to achieve greatness and crucial insights in sugar metabolism and glycogen biosynthesis.

Some of these researchers investigated things as simple as water (and their transporation into and out of cells) and others offered such profound ideas such as Albert Kluver and his comments that “all organisms do biochemistry”.

In a sense, all students of biochemistry as well as chemistry would do well to learn about these biochemists, their discoveries and a bit about their lives- as many led many challenging lives- such as escaping from the Germans in World War II. Each of the biochemists here in this text had something to offer the realm of science and many were rewarded with the highest honor imaginable- the Nobel Prize- and some of them succeeded in their chosen field of endeavor- even though they may have failed Anatomy and Physiology four times!

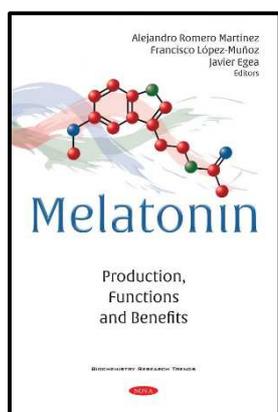
HB 9781536184938 £211.99 September 2020 Nova Science Publishers 335 pages



Cysteine **Sources, Uses and Health Effects** Edited by Taran Saunders

Cysteine is a naturally occurring, sulfur-containing amino acid with a thiol group and is found in most proteins. Cysteine is a common constituent in health-care products like protein powders, body-building shakers, and smoothies. In medicine, it is used for the treatment of diabetes, inflammation, angina, chronic bronchitis, cardiovascular disease, flu and osteoarthritis. Also, some studies suggest that it can enhance lung health in people with chronic obstructive pulmonary disease (COPD). The first chapter of this book focuses on the uses of cysteine in both industries and medicine and health. The second chapter is about the therapeutic uses of N-acetyl cysteine (NAC) for obsessive compulsive disorder. The third chapter describes the functionalization of MCM-41 and MCM-48 by TPA, encapsulation of cysteine into functionalized carriers and their characterization using various physicochemical techniques. The last chapter includes the most recent developments in designing the fluorescent and colorimetric sensors (optical sensors) for selective and sensitive detection of cysteine.

PB 9781536190335 £75.99 January 2021 Nova Science Publishers 117 pages



Melatonin **Production, Functions and Benefits** Edited by Alejandro Romero Martínez

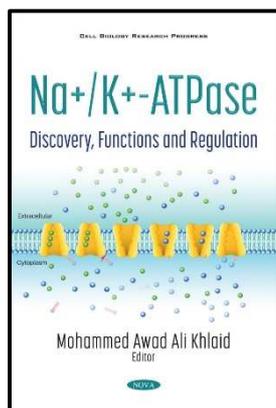
The exponential influx of scientific research on melatonin is associated with a greater orientation towards the study of the systemic effects of melatonin and their derivatives, as well as their clinical implications. Proof of this fact is summarized in the present compilation, where melatonin is presented as a remarkable agent to counteract most of the physiopathological events that trigger several disorders. The book also collects evidence about melatonin's interactions with two high-affinity G protein-coupled receptors to provide new pharmacological targets for the treatment of cancer, neurological or endocrine conditions. The present review also includes detailed coverage of molecules with improved safety profiles and melatonin receptor agonists (such as ramelteon, tasimelteon, and agomelatine), and the latest findings on the role of melatonin in protecting plants from abiotic stress, improving their resistance to adverse conditions, regulating several environmental stresses including heat stress, as well as the clinical use of melatonin in the treatment of fertility-related problems and reproductive health.

The multiplicity of actions of melatonin, including modulating immune responses and inflammation and maintaining mitochondrial integrity, make this indoleamine a valuable therapeutic agent in the treatment of neurodegeneration, polycystic ovary syndrome, brain ischemia and traumatic brain injury, fibromyalgia, optic neuritis and glaucoma, alone or in combination with other drugs.

Melatonin easily crosses the blood-brain and placental barriers. In this sense, this book provides a complete review suggesting that melatonin supplementation should be considered as a potential disease-preventing agent, with the aim of extending pregnancy duration to improve clinical outcomes and prevent fetal brain damage for pregnancy pathologies, such as preeclampsia, intrauterine growth restriction and preterm birth.

Within the last few decades, melatonin has emerged in clinical oncology as a naturally occurring bioactive molecule with substantial anticancer properties. In addition, this chronobiotic agent exerts oncostatic effects throughout all stages of tumor growth, from initial cell transformation to mitigation of malignant progression and metastasis. Its therapeutic applications in oral cancer, gastrointestinal pathologies and colorectal cancer are discussed, as well as its applications as an adjuvant for alleviating side-effects and improving the welfare of radio/chemotherapy-treated patients.

HB 9781536190311 £211.99 January 2021 Nova Science Publishers 432 pages



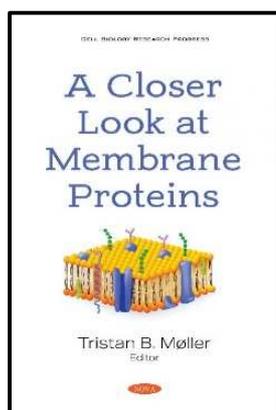
Na⁺/K⁺-ATPase Discovery, Functions and Regulation

Edited by Mohammed Awad Ali Khlaïd

Sodium-potassium adenosine triphosphatase (Na⁺/K⁺-ATPase) is an enzyme located in the plasma membrane of most eukaryotic cells, responsible for maintaining ion concentration gradients against their concentration scale using ATP hydrolysis as a source of energy. The enzyme is involved in many cellular activities, including maintaining cell volume, transporting nutrition, electrical potential, neurotransmission, and any dysfunction or modification of enzyme activity is directly linked to many diseases, such as epilepsy, cardiovascular disease and hypertension, diabetes and other metabolic disorders, digoxin toxicity, fetal abnormalities, neurological disorders, and pulmonary conditions.

In this book, the authors present current research on regulation strategies, Na⁺/K⁺-ATPase as a biomarker in diseased states, and the use of Na⁺/K⁺-ATPase in the physiological and ecological adaptations of insects. Other topics discussed in this compilation include the effects of hormonal and non-hormonal stimulation on Na⁺/K⁺-ATPase activity, the physiology and pathophysiology of Na⁺/K⁺-ATPase, Na⁺/K⁺-ATPase as a biomarker for energy metabolism and oxidative stress in diseased states, the neurotensin inhibitory effects of [3H]-Ouabain binding to striatal membranes and inversion by administration of clozapine, and Na⁺/K⁺-ATPase's important functional roles in human body.

PB 9781536189681 £87.99 January 2021 Nova Science Publishers 161 pages



A Closer Look at Membrane Proteins

Edited by Tristan B. Møller

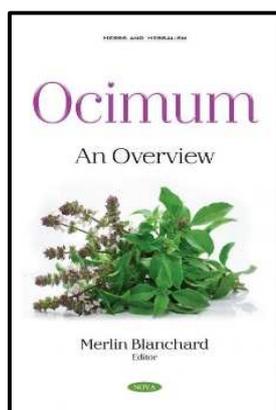
A Closer Look at Membrane Proteins opens with a description of the insulin-like growth factor system, with focus on the insulin-like growth factor receptors and functions associated with them. The data on membrane proteins, their N-glycome and oxidation status is related to the authors' findings on the receptors in different physiological and pathological conditions, such as normal and abnormal tissue growth and development.

Next, a review of the current methods used to prepare and study membrane proteins is presented, with focus on large scale simulations and special emphasis on scalable parallel methods.

In closing, commandments surrounding integral membrane protein expression and purification, integral membrane protein biochemistry, integral membrane protein functionality studies and integral membrane protein high-resolution structures are described.

PB 9781536181494 £87.99 September 2020 Nova Science Publishers 145 pages

Herbs & Herbalism



Ocimum

An Overview

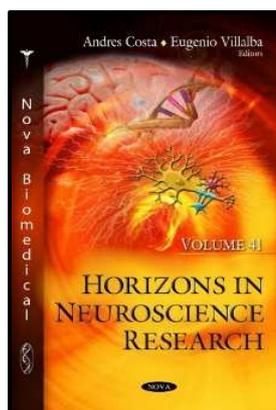
Edited by Merlin Blanchard

Ocimum: An Overview highlights the major milestones in the last three decades of taxonomical identification of *Ocimum*, providing insight into its potentialities and present demands.

The authors explore the utilization of in vitro plant tissue cultures and genetic transformation systems for the improvement of sweet basil. An overview of the primary phenolic compounds found within basil is provided, along with their associated health benefits, and various strategies used to increase phytochemical levels in basil are discussed. Traditional uses of basil are discussed, including in the treatment of head colds and as a cure for warts and worms, as well as an appetite stimulant, carminative, and diuretic. The leishmanicidal and antimicrobial properties of *Ocimum* are discussed in an effort to assess its potential utility in the production of antimicrobials and leishmanicidal agents of natural origin. In closing, the authors summarize the main data on the biologically active substances and therapeutic activities of *Ocimum* species based on the current evidence.

HB 9781536184655 £146.99 September 2020 Nova Science Publishers 224 pages

Horizons in Neuroscience Research



Horizons in Neuroscience Research

Edited by Andres Costa

This compilation opens with a review of the clinical and preclinical studies that reproduce type 1 diabetes, prediabetes and type 2 diabetes, along with an analysis of the complications at the central level, as well as cognitive impairment and its relation with dementia.

Continuing, the authors review the typical neurocognitive deficits associated with alcohol exposure in pregnancy; the relationship between fetal alcohol spectrum disorder and attention-deficit hyperactivity disorder and autism spectrum disorder; and the combined effects of alcohol and drug abuse.

In addition, recent literature summarizing the main roles of sirtuin 2 in the central nervous system is addressed in an attempt to understand the relationship between sirtuin 2, senescence and neurodegenerative diseases.

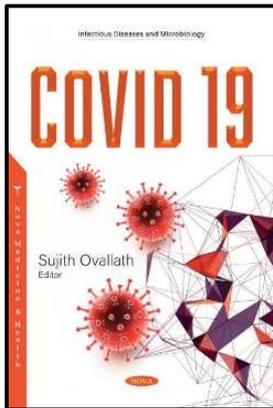
The relationship between biological motion, emotions, and theory of mind in people with neurodevelopmental disorders is examined. Specifically, the authors use bottom-up and top-down investigations to systematically uncover behavioral and neurological patterns of biological motion perception in people with Williams syndrome, autism spectrum disorder, and Down syndrome.

One study deals with the definition of consciousness, the description of the neural substrates that have been associated with it, and the examination of the main interpretative models.

In closing, theory of mind as an implication of empowerment is explored using empirical data on social competence development among children.

Volume 41 - HB 9781536184433 £229.99 September 2020 Nova Science Publishers 200 pages
Volume 42 - HB 9781536187878 £229.99 November 2020 Nova Science Publishers 227 pages

Infectious Diseases & Microbiology



COVID 19

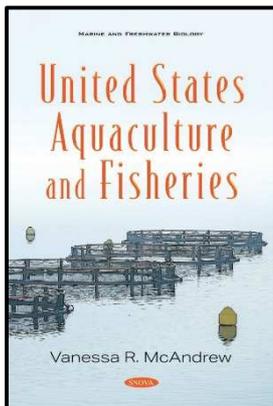
Edited by Sujith Ovallath

Coronavirus disease 2019 (COVID 19) is a viral infection caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). The disease was first identified in 2019 in Wuhan, China, and has since spread globally into a pandemic. The outbreak was declared a Public Health Emergency of International Concern on January 30, 2020 by the World Health Organization. The disease has spread to almost 200 countries and continues to do so, resulting in huge mortalities and morbidities, as well as economic burden on the affected countries. The pandemic has resulted in global shutdown and has impacted many lives.

This book analyzes the epidemiology of COVID 19, the characteristics of the virus, its mode of spread, pathogenesis, pathology, clinical presentation, diagnosis, prevention, and prognosis. The impact of the disease on the health care system, its psycho-social implications, and its impact on the economy is also discussed in detail. This will serve as a reference manual for physicians, students, epidemiologists and researchers in the field. Knowledge about the infection is fast-evolving, hence readers are advised to review the latest guidelines, especially concerning the management of cases of COVID 19.

PB 9781536186918 £75.99 October 2020 Nova Science Publishers 83 pages

Marine & Freshwater Biology

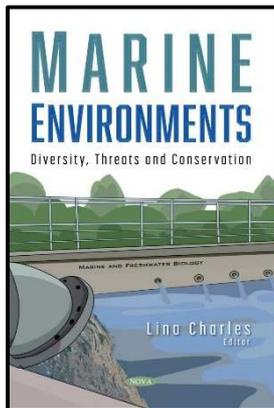


United States Aquaculture and Fisheries

Edited by Vanessa R. McAndrew

Environmental organizations and fishermen generally have opposed development of offshore aquaculture. They assert that poorly regulated aquaculture development in inshore areas has degraded the environment and harmed wild fish populations and ecosystems. Those who oppose aquaculture development generally advocate for new authorities to regulate offshore aquaculture and to safeguard the environment and other uses of offshore waters. Some segments of the commercial fishing industry also have expressed concerns with potential development of aquaculture on fishing grounds and competition between cultured and wild products in domestic markets. This book looks at the issues dealing with offshore aquaculture and fisheries.

HB 9781536187182 £178.99 November 2020 Nova Science Publishers 281 pages



Marine Environments Diversity, Threats and Conservation

Edited by Lina Charles

Marine Environments: Diversity, Threats and Conservation presents important challenges and advances in the field of marine bioindicators in recent years, which could be relevant for integrative monitoring purposes and the development of new approaches and technologies in marine pollution monitoring.

The authors describe history of the development of organophosphorus pesticides, their behavior, current concentrations in marine environments, and effects on marine biota. The environmental behavior of organochlorine pesticides is reviewed, along with their effects on biota in global marine coastal environments, noting that these compounds are still detectable and potentially harmful.

In one study, stranded cetaceans and Pacific cods are used as indicator species to compare the contamination levels of radiocesium in three seas shortly after the Fukushima Daiichi Nuclear Power Plant Accident in 2011.

A comparison between different extraction and detection techniques used for the determination of organic and inorganic pollutants in environmental matrices such as biota, water, and sediment is investigated.

Additionally, the authors address the influence of plastic pollution on marine environments through continental water bodies.

The potential application of the UV/persulfate process for the degradation of emerging organic pollutants in seawater is discussed, using chlorazol black as a substrate model.

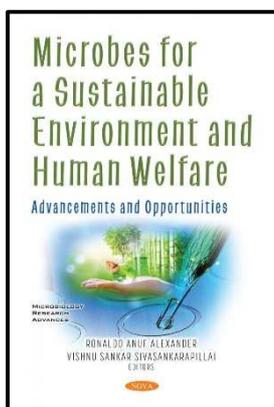
The implications of atmospheric transport in the circulation of organochlorine pesticides are considered, presenting the relevance of atmospheric deposition to the oceans as a key process that affects marine environments.

The penultimate chapter assesses the health of Black Sea fish species belonging to different ecological groups. In particular, the histopathological and biochemical biomarkers of the blood, spleen and liver are studied.

In closing, the authors propose a Containerized Marine Knowledge System by means of IoT-Cloud and LoRaWAN to improve marine environment monitoring.

HB 9781536188745 £284.99 December 2020 Nova Science Publishers 519 pages

Microbiology Research Advances

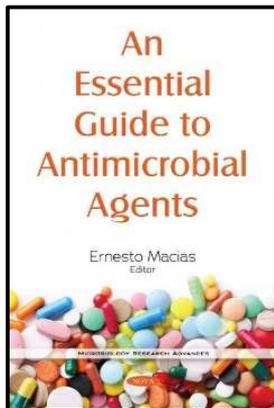


Microbes for a Sustainable Environment and Human Welfare Advancements and Opportunities

Edited by Ronaldo Anuf Alexander

One of the major challenges faced by the world today is developing innovative and cost-effective bio-based technologies for sustaining a greener Earth, and the interactions between living beings are gaining renewed interest and value. This book describes advancements and opportunities for creating a sustainable environment for the welfare of humans with the help of microbes. Microbial activities are unique; their approaches can reduce stress on the environment, agricultural ecosystem, and soil biodiversity sustainability. A multidisciplinary view of microbial sustainability is presented in this book.

HB 9781536190625 £211.99 January 2021 Nova Science Publishers 371 pages



An Essential Guide to Antimicrobial Agents

Edited by Ernesto Macias

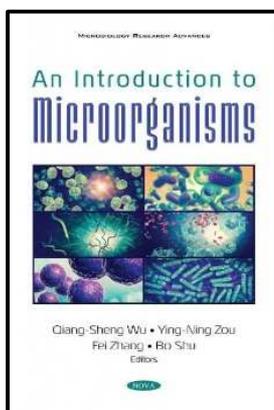
Antimicrobial resistance has emerged as a global public health issue, as only a limited number of effective antibiotics are able to treat drug-resistant cases. As such, this compilation discusses the intensive non-clinical and clinical research on the identification of novel and non-conventional anti-infective adjunctive or preventive therapies.

The authors review the mode of action of antimicrobial peptides and their therapeutic potential. Their complexity of molecules at the sequential and structural levels allow them to combat a wide variety of bacterial, viral, fungal and protozoan pathogens.

Various solvent extracts from the stem of *Pongamia pinnata* L. are explored in the context of its antimicrobial activity against a wide array of pathogenic microorganisms.

In closing, as silver nanoparticles can be more suitable in some bactericidal applications than silver ions, the efficacy of nanosilver as an antimicrobial agent against a range of microbes on the surface of water paints and cotton fabrics is studied.

PB 9781536188981 £87.99 December 2020 Nova Science Publishers 172 pages



An Introduction to Microorganisms

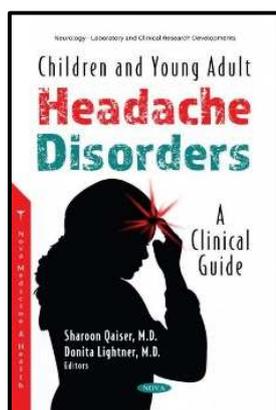
Edited by Qiang-Sheng Wu

Microorganisms include bacteria, actinomycetes, yeasts, molds, and viruses, among which bacteria are the most prevalent in nature, accounting for 90%-95% of microorganisms. Some microorganisms are visible to the naked eye, such as mushrooms, *Ganoderma lucidum*, etc. Other microorganisms are “acellular organisms” composed of a few components, such as nucleic acids and proteins. Microorganisms are tiny and closely related to humans, comprised of a variety of beneficial and harmful species. The new coronavirus (2019-nCoV) that broke out in 2019 is a large virus family that is highly infectious. The rapid spread of 2019-nCoV globally has made the public recognize the importance of microorganisms in medicine, as well as their involvement in food, industry, agriculture, environmental protection, sports and many other fields.

The present book revolves around the introduction to microorganisms and reviews relevant achievements in the field. The book is arranged in six important sections, including (i) quantitative optical microscopy in microbiology, (ii) introduction to important yeast genera in food biotechnology, (iii) nitrogen fixation and plant growth promotion by rhizobia with major emphasis on soybeans in Asia, (iv) endophytic fungus *Piriformospora indica* and its interaction with horticultural plants, (v) biodiversity of arbuscular mycorrhizal fungi in tropical Indonesia, and (vi) root rot and continuous cropping obstacles.

This book provides important support for graduate students and researchers in the study of microorganisms while summarizing some new advances, particularly in rhizobia.

HB 9781536188721 £178.99 December 2020 Nova Science Publishers 261 pages



Children and Young Adult Headache Disorders A Clinical Guide

Edited by Sharon Qaiser

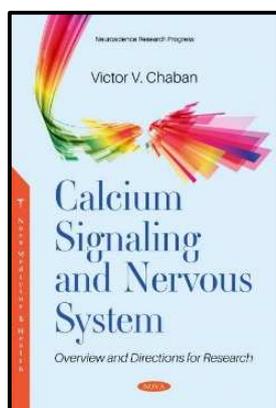
“Doc, I am not worried about my seizures because my family at home and friends at school are there to help. When I have a seizure, it goes away but oh my headaches, I must live my life through these headaches and my life never stops during my headache and I must keep on doing things. Can you make these headaches go away?”

-Patient diaries

Everybody needs to hear that more than one million school days are missed in two weeks alone due to headaches and it is not school avoidance but a true medical disorder effecting our children. This is a challenging task to demystify subjective nature of ailment plagued with sense of familiarity. I felt this unmet need and this motivated me to write this book. This book describes historical journey from antiquity to present times, leading to our understanding of headache disorders. Children are not young adults, they may have different clinical presentation of similar disease. Many children have “non-headache” component of migraine equivalent syndromes which are either poorly recognized or under diagnosed. In this book, I focused on headache disorders in children and unique approach needed to recognize and manage these conditions. This book describes my health care philosophy i.e. managing common yet high morbidity causing conditions through awareness and education. This book is written for health care providers and for any one who suffers from headache syndromes.

HB 9781536187762 £178.99 November 2020 Nova Science Publishers 236 pages

Neuroscience Research Progress



Calcium Signaling and Nervous System Overview and Directions for Research

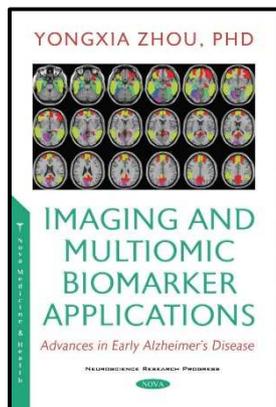
Victor V. Chaban

This book provides comprehensive insights into emerging trends on calcium signaling in the nervous system from triggering signal transduction neuronal pathways to regulation of brain functions. Calcium signaling is one of the major coupling mechanism linking external stimuli with intracellular processes. Normal calcium signaling is important for functioning of all cells particularly neurons coupled to control mechanisms of the body inducing intra- and intercellular signaling and triggering biochemical cascade to control metabolism, gene expression, cell differentiation and apoptosis.

The author, Dr. Victor V. Chaban is Professor of Medicine with dual appointment at Charles R. Drew University of Medicine and Science (CDU) and University of California Los Angeles (UCLA). Dr. Chaban completed his post-doctoral training in Neuroscience at UCLA and graduate studies in Clinical Research at CDU. He serves on National Institute of Health and several international study sections and holds U.S. Patents. Prof. Chaban is established expert, who contributed significantly to a better understanding of neuroplasticity and neurodegeneration associated with changes in calcium signaling.

Calcium Signaling and Nervous System: Overview and Directions for Research gives an up to date account of changes in intracellular Ca²⁺ associated with primary afferents sensitization, neuronal and glial reorganization, neuroprotection and neurodegeneration. This book is recommended to scientists, healthcare providers, students and patients.

PB 9781536184037 £75.99 September 2020 Nova Science Publishers 107 pages



Imaging and Multiomic Biomarker Applications

Yongxia Zhou

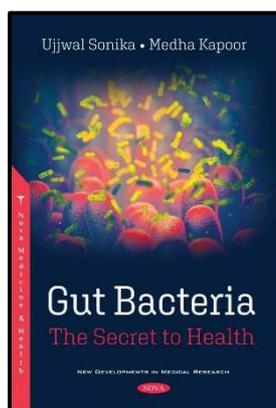
The well-known Alzheimer's Disease Neuroimaging Initiative (ADNI) Center provides the most advanced, comprehensive, multiparametric and up-to-date biomarkers for mild cognitive impairment (MCI) and early Alzheimer's disease (AD) projects, including neuroimaging, clinical assessments, biospecimens and genetic data. Recent developments in imaging techniques, including new molecular tracers for imaging disease burden and systematic multi-modal integration, have emerged to overcome the limitations of each single modality and individual-dependent variability. The MRI-based high-resolution structural and morphological changes in the brain, such as atrophy, and the abnormal activity/connectivity patterns of the hippocampus subfields and default mode network (DMN) modulation, together with the amyloid and tau neuropathological quantification using PET molecular tracers, could be used to predict brain changes and cognitive performance declines in early AD, including transitional MCI. Finally, a generalized and integrative model with multiple biomarkers could be built to target disease progression and symptom prediction as well as to optimize patient management.

Multiomics investigates metabolomic, lipidomic, genomic, transcriptomic and proteomic perspectives by presenting an accurate biochemical profile of the organism in health and disease. The Alzheimer's Disease Metabolomics Consortium (ADMC) in partnership with ADNI is creating a comprehensive biochemical database for patients in the ADNI1 cohort, consisting of eight metabolomics datasets. The vast majorities of biospecimen data provide rich biological information to the human brain at normal and dementia status. One of the purposes is to reveal the connections between disease and multiomics such as obesity, hypertension, cholesterol imbalance and inflammation risks that might lead to neurodegenerative disease. Multiomic biomarker developments in the dementia field have provided earlier clues to novel treatments that help correct metabolic dysfunction and delay disease progression. Furthermore, the assembling of multiomics-based biomarkers including metabolites and lipids, cholesterol biosynthesis, purine metabolism, lipoprotein, bile acids, and genetics as well as their relation to the pathological amyloid and tau network could improve disease diagnosis sensitivity and reveal more diverse and complementary molecular pathways to allow for the advancement of early AD diagnosis and therapeutic prevention.

In this book, we report on the significant differences of multiple biomarkers from the ADNI database including neuroimaging, clinical assessments and multiomic biospecimen/genetic data in MCI and early probable AD (pAD), and elucidate the interconnections among different metrics at various domains. Classification results with high accuracies (0.95-1) for each early dementia subtype including early MCI (EMCI), late MCI (LMCI) and pAD, and better prediction of clinical symptoms is achieved with these comprehensive biomarkers. Further longitudinal changes of imaging and neuropsychological biomarkers, and inter-correlations with baseline parameters are examined for a better illustration of disease progression association. Additionally, an analysis of the post-traumatic stress disorder biomarkers is performed with high classification accuracy. With illustrative and rigorous data analyses and confirmative results, this book provides readers with a full spectrum of biomarker research for early dementia diagnosis and treatment, and helps convey the technical development and data evaluation perspectives in advanced medical imaging and various disease application fields.

HB 9781536190793 £146.99 January 2021 Nova Science Publishers 251 pages

New Developments in Medical Research



Gut Bacteria The Secret to Health

Ujjwal Sonika

This book provides the bird's eye view of the latest scientific research centered around the importance of gut bacteria in influencing our health and well-being and their impact on lifestyle diseases.

The scientific information is presented in an easy-to-understand language while being interspersed with fun-facts and anecdotal accounts, which entertain the audience while helping them acquire this fundamental and relevant scientific knowledge.

The authors explain in a lay-person friendly terminology about the role of gut bacteria in determining the state of both our physical and mental well-being. The authors then share insights about the role of gut bacteria in predisposition to various lifestyle diseases such as diabetes, obesity, metabolic syndrome, and response to stress, utilizing the latest published scientific research in peer-reviewed journals.

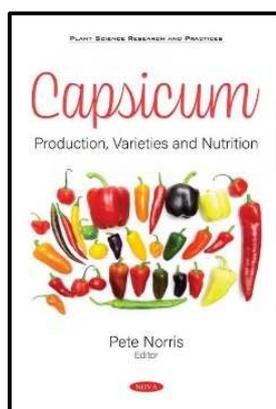
- “What are the gut bacteria?”
- “What are the various factors which affect their composition and numbers?”
- “How do they perform such vital functions?”
- “How do they protect us from the biggest killers of today's mankind- the lifestyle diseases?”
- And most importantly, “how can we harness this knowledge for our benefit?”

This book answers these questions in an easy language for readers without any background in biology.

The information provided in the book is useful to anyone who wants to lead a healthy life. It is worth reading even for the health care professionals as their current curriculum does not entail extensive information about the gut-bacteria and their significance in determining our health.

PB 9781536190847 £87.99 January 2021 Nova Science Publishers 167 pages

Plant Science Research & Practices



Capsicum Production, Varieties and Nutrition

Edited by Pete Norris

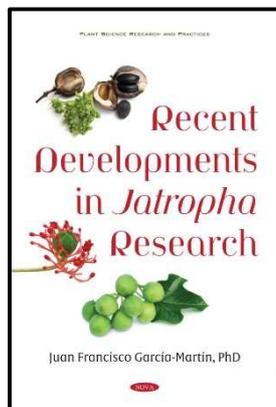
Capsicum is the name of the pepper plant genus that includes 27 species, which range from sweet bell peppers to the hottest peppers on the planet. Due to variations in climatic conditions, insects show varying trends in their incidence and extent of damage to the crop.

This compilation discusses how, as an effect of these interactions, the production of pepper is affected quantitatively but especially qualitatively.

Additionally, the authors study the effect of capsaicin at the cellular signalling level, gene expression, and the use of bioinformatics to understand the mechanism of cell signalling and regulation of gene events taking place between tumorous cell and capsaicin receptors.

In closing, all in vitro/in vivo methods reported so far for obtaining doubled haploids in both sweet and hot pepper are compared. The androgenesis, gynogenesis and efficiency are discussed in both hot and sweet pepper species.

PB 9781536188219 £87.99 November 2020 Nova Science Publishers 153 pages

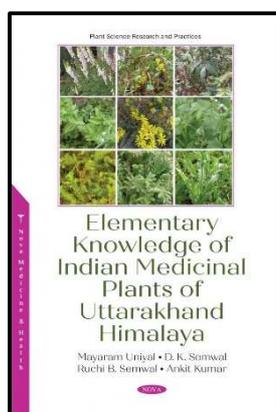


Recent Developments in Jatropha Research

Edited by Juan Francisco García-Martín

The genus *Jatropha* comprises a range of species with a wide range of potential applications. For instance, *J. dioica* and *J. curcas* have important medicinal, pharmaceutical and food uses, as described throughout the book. Most of the chapters of this book are focused on this later species, which is considered as the most promising and the one with the most applications. *J. curcas* oil is used as substrate for biodiesel production and, due to its high tolerance and uptake of metals, this plant is also used in phytoremediation, to be specific for the remediation of degraded mining areas. This book presents an overview of both current and promising applications of the species of *Jatropha* to the agricultural, mining and biofuel industries and, to lesser extent, the pharmaceutical and food industries. The agronomic practices (genotypes, plant density, fertilization, pruning and harvest date) are described as well. The most recent developments are discussed and the future prospects for research in these fields are explored.

HB 9781536191325 £211.99 February 2021 Nova Science Publishers 322 pages

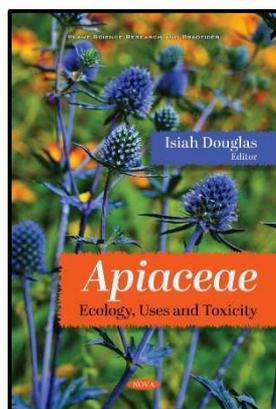


Elementary Knowledge of Indian Medicinal Plants of Uttarakhand Himalaya

Mayaram Uniyal

Elementary Knowledge of Indian Medicinal Plants of Uttarakhand Himalaya mainly focuses on the taxonomy and ethnomedicinal uses of plants, and the information provided can be used to identify plants while surveying medicinal plants in the region. This compilation will be helpful for researchers and students working in the field of plant science and other related fields. This textbook is divided into five chapters, and the first chapter reviews the historical aspects of India in terms of traditional knowledge. The second chapter provides a general introduction to the biodiversity of medicinal plants in Uttarakhand, a Himalayan state of India, as well as its geography, population, herbal sector status, temperature and altitudes. The third chapter reviews 600 flowering plants belonging to 108 families. Each plant is described using its Ayurvedic/Sanskrit name, vernacular/local name, botanical properties, distribution, medicinal properties, phytochemical constituents and pharmacological status. The fourth chapter discusses 14 gymnosperms belonging to four families, and the fifth chapter discusses 18 pteridophytes from two families. Photographs of selected plants are also included in a separate section.

HB 9781536190786 £247.99 January 2021 Nova Science Publishers 468 pages

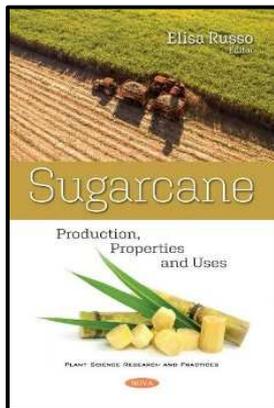


Apiaceae Ecology, Uses and Toxicity

Edited by Isiah Douglas

The *Apiaceae* are a large botanical family, with economically important taxa and medicinal interest due to their secondary metabolites. Despite the importance of *Apiaceae* plants, particularly for the management of CVDs (cardiovascular diseases), no systematic review has been conducted compiling the traditional uses ascribed to some of these species and the scientific studies validating the reported effects. Therefore, in the first chapter, a systematic review was carried out in order to gather the available information. In addition, the effects of isolated compounds, as well as the underlying mechanisms of action of both plant extracts and compounds was included. Also, the safety profile of *Apiaceae* extracts used to manage CVDs was highlighted. In the second chapter, the chemical composition, cultivation and uses of *anethum graveolens* (one of the species is the family *Apiaceae*) is explored. In the last chapter of the book, three poisonous plants (*Conium maculatum*, *Cicuta sp.* and *Aethusacynapium*. *Conium maculatum*) of the *Apiaceae* family are explored in detail.

PB 9781536190601 £87.99 January 2021 Nova Science Publishers 164 pages



Sugarcane Production, Properties and Uses

Edited by Elisa Russo

Sugarcane: Production, Properties and Uses provides details on new industrial technologies of the ethanol extraction process through mathematical modeling for bioenergy crops, socioeconomic and environmental aspects based on Circular Economy concepts, and some commercial and industrial applications in thermal power plants and/or biorefineries.

Lignocellulosic biomass is the most abundant of terrestrial feedstocks available for producing chemicals and materials as well as harvesting energy. As such, this compilation aims to describe the structure of sugarcane lignin, as well as its isolation, characterization, and applications.

The authors study the co-digestion of sugarcane vinasse and glycerin in a thermophilic anaerobic sequencing batch biofilm reactor, which has not previously been studied.

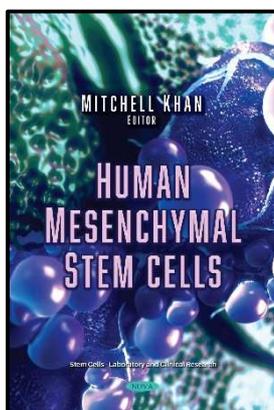
Additionally, they evaluate the option of using sugarcane cultivars in the production of sucrose in Mexico as a livestock feed source in the dry season, with the determination of variables such as stem height, stem diameter, Brix degrees, health and flowering.

Following this, variations of phenol accumulation in healthy sugarcane plants or sugarcane plants experimentally infected with *Xanthomonas albilineans*, the bacteria that causes leaf scald, are studied.

The concluding work evaluates the emissions of gases from a bench diesel engine combustion with different diesel/biodiesel blends from beef tallow/sugarcane diesel in the proportions CD10, CD-B15, CD-B25, CD-B35 and CD-B50, in order to simulate biofuel combustion emissions at different concentrations.

HB 9781536184174 £146.99 September 2020 Nova Science Publishers 237 pages

Stem Cells - Laboratory & Clinical Research



Human Mesenchymal Stem Cells

Edited by Mitchell Khan

In Chapter 1, the COVID-19 pandemic and the damage mechanisms on the cellular level which can be ameliorated with the cellular therapies is thoroughly evaluated. Previous and ongoing stem cell clinical trial data from diseases with similar symptoms is gathered. All this accumulated data and current clinical trial results indicate that the cellular therapies could be the most effective treatment option for COVID-19 patients to ameliorate the damaged tissues and save lives. In Chapter 2, the authors examine activated mesenchymal stem cells for stroke repair. Stem Cell treatment has shown recovery in animal models of stroke, indicating an improved regenerative and repair potential. Though stem cells are still being used in clinical trials, there is no evidence that they enhance recovery in ischemic stroke patients. Nevertheless, the multipotent mesenchymal stem has widely been explored for stroke recovery. An 'Activated MSC' as a therapeutic alternative to tackling ischemic stroke is proposed, thereby the activation of MSCs by cytokines, growth factors, hypoxia, pharmacological drugs, etc., could be a novel approach to improving stroke patients' responses to receiving MSCs. In Chapter 3, the potential benefits of in vitro culture of therapeutic stem cells in the presence of HB along with the ketogenic diet, whereby higher physiological concentrations of ketone bodies can be achieved in vivo, as an adjuvant to stem cell transplantation is assessed.

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