

Review On Ageing Mechanisms Of Different Li Ion Batteries

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Muscle-Tendon-Innervation Unit: Degeneration and Aging - Pathophysiological and Regeneration Mechanisms Luciano Merlini
2017-02-24

Aging is characterized by progressive deterioration of walking ability. This function loss has multiple causes including central and peripheral nerve dysfunction, loss of muscle mass and strength, as well as joints and bone alterations. Muscle-tendon unit and its innervation has a pivotal role in motor function performance that can be disrupted by overuse degeneration and aging. Research has shown that overuse degeneration and aging also share some pathophysiological mechanisms including mitochondrial dysfunction, increased apoptosis, abnormal modulation of autophagy, decline in satellite cells, increased generation of reactive oxygen species, and modification of signalling and stress response pathways. This Research Topic is intended to bring together basic researchers and clinicians working in the area of neuroscience, aging, sarcopenia and orthopaedics in human and in animal models. The aim of this cross-fertilization is to accelerate our understanding of the mechanisms involved in aging and degeneration of the muscle-tendon unit and its innervation and to explore the therapeutic potential of pharmacological and physical therapy interventions.

Aging Management and Component Analysis Vikram N. Shah 2003

Batteries for Sustainability - Ralph J. Brodd 2012-12-12

Batteries that can store electricity from solar and wind generation farms are a key component of a sustainable energy strategy. Featuring 15 peer-reviewed entries from the Encyclopedia of Sustainability Science and Technology, this book presents a wide range of battery types and components, from nanocarbons for supercapacitors to lead acid battery systems and technology. Worldwide experts provides a snapshot-in-time of the state-of-the art in battery-related R&D, with a particular focus on rechargeable batteries. Such batteries can store electrical energy generated by renewable energy sources such as solar, wind, and hydropower installations with high efficiency and release it on demand. They are efficient, non-polluting, self-contained devices, and their components can be recovered and used to recreate battery systems. Coverage also highlights the significant efforts currently underway to adapt battery technology to power cars, trucks and buses in order to eliminate pollution from petroleum combustion. Written for an audience of undergraduate and graduate students, researchers, and industry experts, Batteries for Sustainability is an invaluable one-stop reference to this essential area of energy technology.

[Aging Mechanisms](#) - Nozomu Mori 2015-11-26

This book brings together the most up-to-date information on recent

research results of leading laboratories on aging science in East Asia, particularly in Japan, Korea, and Hong Kong. Starting with a comprehensive overview of various hypotheses on biological mechanisms of aging by Dr. Sataro Goto, each chapter covers broad aspects of the most recent findings in aging-related topics: centenarian studies and genome analysis of progeria, metabolic biochemistry and neurobiology, longevity controls in yeast and nematodes, oxidative stress and calorie restriction, and neurodegeneration mechanisms in Alzheimer's and Huntington's diseases, with further potential therapeutic approaches to these age-related neurodegenerative diseases. Also included, in part, is a summary and the outcomes of a scientific discussion forum called the Asian Aging Core for Longevity (AACL) that has been held annually alternating between Japan and Korea during the last decade. This book can serve as a useful resource for finding appropriate collaborators in the areas it covers. The target readership is made up of graduate students and researchers at universities, medical and/or life-science schools, and biomedical and pharmaceutical institutes. Why does aging exist? How do we age? How is each organism's lifespan determined? These are fundamental questions in the field. We may be still far from achieving a complete view of aging mechanisms, but this book, *Aging Mechanisms*, offers an excellent opportunity to become familiar with the most updated progress in the biomedical research of aging in Japan and Korea, the two leading nations for human longevity.

Battery Management Systems - H.J. Bergveld 2013-03-09

Battery Management Systems - Design by Modelling describes the design of Battery Management Systems (BMS) with the aid of simulation methods. The basic tasks of BMS are to ensure optimum use of the energy stored in the battery (pack) that powers a portable device and to prevent damage inflicted on the battery (pack). This becomes increasingly important due to the larger power consumption associated with added features to portable devices on the one hand and the demand for longer run times on the other hand. In addition to explaining the general principles of BMS tasks such as charging algorithms and State-of-Charge (SoC) indication methods, the book also covers real-life

examples of BMS functionality of practical portable devices such as shavers and cellular phones. Simulations offer the advantage over measurements that less time is needed to gain knowledge of a battery's behaviour in interaction with other parts in a portable device under a wide variety of conditions. This knowledge can be used to improve the design of a BMS, even before a prototype of the portable device has been built. The battery is the central part of a BMS and good simulation models that can be used to improve the BMS design were previously unavailable. Therefore, a large part of the book is devoted to the construction of simulation models for rechargeable batteries. With the aid of several illustrations it is shown that design improvements can indeed be realized with the presented battery models. Examples include an improved charging algorithm that was elaborated in simulations and verified in practice and a new SoC indication system that was developed showing promising results. The contents of *Battery Management Systems - Design by Modelling* is based on years of research performed at the Philips Research Laboratories. The combination of basic and detailed descriptions of battery behaviour both in chemical and electrical terms makes this book truly multidisciplinary. It can therefore be read both by people with an (electro)chemical and an electrical engineering background.

Aging and Age-Related Disorders From Molecular Mechanisms to Therapies - Vladimir Titorenko 2019-08-19

Aging of unicellular and multicellular eukaryotic organisms is a convoluted biological phenomenon, which is manifested as an age-related functional decline caused by progressive dysregulation of certain cellular and organismal processes. Many chronic diseases are associated with human aging. These aging-associated diseases include cardiovascular diseases, chronic obstructive pulmonary disease, chronic kidney disease, diabetes, osteoarthritis, osteoporosis, sarcopenia, stroke, neurodegenerative diseases (including Parkinson's, Alzheimer's, and Huntington's diseases), and many forms of cancer. Studies in yeast, roundworms, fruit flies, fishes, mice, primates, and humans have provided evidence that the major aspects and basic mechanisms of aging

and aging-associated pathology are conserved across phyla. The focus of this International Journal of Molecular Sciences Special Issue is on molecular and cellular mechanisms, diagnostics, and therapies and diseases of aging. Fifteen original research and review articles in this Special Issue provide important insights into how various genetic, dietary, and pharmacological interventions can affect certain longevity-defining cellular and organismal processes to delay aging and postpone the onset of age-related pathologies in evolutionarily diverse organisms. These articles outline the most important unanswered questions and directions for future research in the vibrant and rapidly evolving fields of mechanisms of biological aging, aging-associated diseases, and aging-delaying therapies.

Skin Aging & Cancer - Ashish Dwivedi 2019-11-17

This book summarizes the potent effect of ultraviolet radiation (UVR) on the photoaging and cancer formation. Skin is the largest human organ which continually reconstructs itself to ensure its viability, integrity, and ability to provide protection for the body. This protection can be compromised by the aging of the skin which ultimately promotes skin inflammation, impaired wound repair, and increased risk of skin cancer. The book entails mechanistic insights into the UVR-induced immunomodulation and DNA damage in the skin to delineate the pathogenesis, and develop novel ways for prevention of photoaging of the skin cells. It also elucidates the potential of nanotechnology in the treatment of skin cancer. Further, it discusses the bioinformatics approaches to understand the molecular mechanism of photoaging and cancer formation.

Critical Reviews of Oxidative Stress and Aging - Richard G. Cutler 2003

This two-volume reference examines the translational research field of oxidative stress and ageing. It focuses on understanding the molecular basis of oxidative stress and its associated age-related diseases, with the goal of developing new methods for treating the human ageing processes.

Materials Ageing and Degradation in Light Water Reactors - Dr. Murty 2013-02-18

Light water reactors (LWRs) are the predominant class of nuclear power reactors in operation today; however, ageing and degradation can influence both their performance and lifetime. Knowledge of these factors is therefore critical to safe, continuous operation. Materials ageing and degradation in light water reactors provides a comprehensive guide to prevalent deterioration mechanisms, and the approaches used to handle their effects. Part one introduces fundamental ageing issues and degradation mechanisms. Beginning with an overview of ageing and degradation issues in LWRs, the book goes on to discuss corrosion in pressurized water reactors and creep deformation of materials in LWRs. Part two then considers materials' ageing and degradation in specific LWR components. Applications of zirconium alloys in LWRs are discussed, along with the ageing of electric cables. Materials management strategies for LWRs are then the focus of part three. Materials management strategies for pressurized water reactors and VVER reactors are considered before the book concludes with a discussion of materials-related problems faced by LWR operators and corresponding research needs. With its distinguished editor and international team of expert contributors, Materials ageing and degradation in light water reactors is an authoritative review for anyone requiring an understanding of the performance and durability of this type of nuclear power plant, including plant operators and managers, nuclear metallurgists, governmental and regulatory safety bodies, and researchers, scientists and academics working in this area. Introduces the fundamental ageing issues and degradation mechanisms associated with this class of nuclear power reactors. Considers materials ageing and degradation in specific light water reactor components, including properties, performance and inspection. Chapters also focus on material management strategies.

Applied Mechanics Reviews - 1977

The Seven Sins of Memory - Daniel L. Schacter 2002-05-07

A New York Times Notable Book: A psychologist's "gripping and thought-provoking" look at how and why our brains sometimes fail us (Steven

Pinker, author of *How the Mind Works*). In this intriguing study, Harvard psychologist Daniel L. Schacter explores the memory miscues that occur in everyday life, placing them into seven categories: absent-mindedness, transience, blocking, misattribution, suggestibility, bias, and persistence. Illustrating these concepts with vivid examples—case studies, literary excerpts, experimental evidence, and accounts of highly visible news events such as the O. J. Simpson verdict, Bill Clinton’s grand jury testimony, and the search for the Oklahoma City bomber—he also delves into striking new scientific research, giving us a glimpse of the fascinating neurology of memory and offering “insight into common malfunctions of the mind” (*USA Today*). “Though memory failure can amount to little more than a mild annoyance, the consequences of misattribution in eyewitness testimony can be devastating, as can the consequences of suggestibility among pre-school children and among adults with ‘false memory syndrome’ . . . Drawing upon recent neuroimaging research that allows a glimpse of the brain as it learns and remembers, Schacter guides his readers on a fascinating journey of the human mind.” —*Library Journal* “Clear, entertaining and provocative . . . Encourages a new appreciation of the complexity and fragility of memory.” —*The Seattle Times* “Should be required reading for police, lawyers, psychologists, and anyone else who wants to understand how memory can go terribly wrong.” —*The Atlanta Journal-Constitution* “A fascinating journey through paths of memory, its open avenues and blind alleys . . . Lucid, engaging, and enjoyable.” —Jerome Groopman, MD “Compelling in its science and its probing examination of everyday life, *The Seven Sins of Memory* is also a delightful book, lively and clear.” —*Chicago Tribune* Winner of the William James Book Award

List of Journals Indexed for MEDLINE

Mechanisms Linking Aging, Diseases and Biological Age

Estimation - Sara C. Zapico 2017-03-27

This book focuses on four of the hallmarks of aging: aspartic acid racemization, advanced glycation end products, telomere shortening and mitochondrial mutations; describing their role in aging and diseases; and

their application to age-at-death estimation in forensic sciences in greater depth, displaying the interconnecting pathways among these processes. An additional chapter related to Epigenetics and its role in aging, diseases, and forensic age estimation is also included. This book is aimed at a broad audience: from students being introduced to aging, diseases, and forensic science research to scientists in biomedicine and forensics complementing their knowledge in their respective fields while also increasing their knowledge in other disciplines.

Unequal Treatment - Institute of Medicine 2009-02-06

Racial and ethnic disparities in health care are known to reflect access to care and other issues that arise from differing socioeconomic conditions. There is, however, increasing evidence that even after such differences are accounted for, race and ethnicity remain significant predictors of the quality of health care received. In *Unequal Treatment*, a panel of experts documents this evidence and explores how persons of color experience the health care environment. The book examines how disparities in treatment may arise in health care systems and looks at aspects of the clinical encounter that may contribute to such disparities. Patients' and providers' attitudes, expectations, and behavior are analyzed. How to intervene? *Unequal Treatment* offers recommendations for improvements in medical care financing, allocation of care, availability of language translation, community-based care, and other arenas. The committee highlights the potential of cross-cultural education to improve provider-patient communication and offers a detailed look at how to integrate cross-cultural learning within the health professions. The book concludes with recommendations for data collection and research initiatives. *Unequal Treatment* will be vitally important to health care policymakers, administrators, providers, educators, and students as well as advocates for people of color.

New Horizons in Design Science: Broadening the Research

Agenda - Brian Donnellan 2015-04-30

This book constitutes the thoroughly refereed proceedings of the 10th International Conference on Design Science Research in Information Systems and Technology, DESRIST 2015, held in Dublin, Ireland, in May

2015. The 22 full papers, 11 short papers and 10 short papers describing prototypes and products were carefully reviewed and selected from 111 submissions. The papers are organized in topical sections on design science research in action; meta perspectives; data mining and analytics; emerging themes; design practice and design thinking; and prototypes.

Novel Molecular Mechanisms and Innovative Therapeutic Approaches for Age-Associated Diseases - Leming Sun 2022-06-03

Inflammation, Stem Cells and Wound Healing in Skin Aging - Ji Li 2022-11-16

Pathophysiological Mechanisms of Sarcopenia in Aging and in Muscular Dystrophy: A Translational Approach - Luciano Merlini 2016-01-18

Loss of muscle mass and increased fibrosis characterize both sarcopenia of aging and muscular dystrophy. Research is increasingly showing that these two conditions also share several pathophysiological mechanisms, including mitochondrial dysfunction, increased apoptosis, abnormal modulation of autophagy, decline in satellite cells, increased generation of reactive oxygen species, and abnormal regulation of signaling and stress response pathways. This Research Topic will cover several mechanisms involved in aging and dystrophic sarcopenia and explore the therapeutic potential of various strategies for intervention.

Anti-Aging Drug Discovery on the Basis of Hallmarks of Aging - Sandeep Kumar Singh 2022-07-19

Anti-Aging Drug Discovery on the Basis of Hallmarks of Aging is a comprehensive and timely book on all aspects of anti-aging strategies. The book provides comprehensive, foundational knowledge on the mechanisms of aging and current anti-aging strategies and approaches developed. Aging research has experienced an unprecedented advance over recent years with the discovery that the rate of aging is determined, at least to some extent, mainly by our genetics and modulated by environmental factors. The hallmarks of aging describe the molecular and cellular processes that govern biological aging and their variation in

individuals. Covers different aspects of anti-aging research, from foundational knowledge to future perspectives Provides understanding on the different hallmarks of aging and how they can be applied in the development of anti-aging drugs Discusses various anti-aging strategies, including telomerase reactivation, clearance of senescent cells, stem cell-based therapy, and others

Insights Into Mechanisms Underlying Brain Impairment in Aging - Jolanta Dorszewska 2021-11-29

The Aging Lungs - Richard Bucala 2015-12-08

This volume provides a comprehensive and multi-disciplinary overview of the aging lung, written by the main researchers in the field. Current physiological, cellular and molecular understanding of how the lungs age and the relationship to age-associated lung diseases will be presented. The contents are aimed at a broad audience of scientists and clinicians with an interest in the respiratory system, pathogenesis of age-associated lung diseases and clinical implications. Contents: Normal Development, Anatomy, Histology and Aging of the Lung (Xuchen Zhang and Robert J Homer) Physiology of the Aging Lung (Brienne Miner, Thomas M Gill, and Carlos A Vaz Fragoso) Aging Lung, Environmental and Genetic Factors — Race, Ethnicity and Gender (Holly Keyt, Stephanie Levine, and Claude Jourdan Le Saux) Frailty in Pulmonary and Critical Care Medicine (Cristine E Berry and Enid R Neptune) Intensive Care Unit Outcomes in Older Adults (Margaret A Pisani and Lauren Ferrante) Severe Sepsis, Pneumonia and Aging (Olufunmilayo Falade and Sachin Yende) Sepsis and Acute Lung Injury in Aging (Anup Srivastava, Yao Wong, Shruti Erramilli, and Praveen Mannam) Acute Respiratory Distress Syndrome: The Role of Mesenchymal Stem Cells and Arising Complications Due to an Aging Lung (John Sembrat, Maria G Kapetanaki, and Mauricio Rojas) The Aging Immune System, Vaccine Efficacy, and the Lung (Jenna M Bartley and Laura Haynes) Respiratory Infection, Airway Colonization and Chronic Inflammation in Aging (Chad Marion and Charles S Dela Cruz) HIV, the Lung and Aging (Lynn M Schnapp and Kristina Crothers) Geriatric Pulmonary Hypertension: Recent

Epidemiologic Trends and Treatment Update (Vanessa Yap, George A Kuchel, and Raymond J Foley) Growth Factors and Aging in Pulmonary Arterial Hypertension (Claudio Bravo, Won-Kyung Cho, and Hyung J Chun) Chronic Obstructive Lung Disease in the Elderly (Jessica F Most and Carolyn L Rochester) Genomics of Lung Aging and Idiopathic Pulmonary Fibrosis (Brenda Juan-Guardela and Naftali Kaminski) Potential Mechanistic Links Between Aging and IPF (Hongyi Pan, Mridu Gulati, and Erica L Herzog) Telomeres and Telomerase (Mary Armanios) Endoplasmic Reticulum Stress (Marta Bueno and Ana L Mora) Autophagy and Metabolism (Jaime L Schneider and Cecilia G Sanchez) Readership: Graduate and post-graduate respiratory, pulmonary, thoracic scientists and physicians; Clinical researchers interested in both pulmonary and aging issues, medical students and professionals. Key Features: Pre-eminent authors and researchers in their respective fields Comprehensive coverage of research, clinical and therapeutic considerations Cutting-edge biology and mechanisms included Keywords: Lungs; Aging; Senescence; COPD; Fibrosis; Asthma; Pulmonary Vascular Diseases

Molecular Mechanisms of Skin Aging and Age-Related Diseases - Taihao Quan 2016-04-21

Our skin changes as we age. It becomes thinner and loses fat, making it less plump and smooth. Clinically, aged skin is characterized by wrinkles, sagging, age spots and dryness. Emphasizing laboratory and clinical research, this book comprehensively describes the molecular mechanisms of human skin-aging and age-related skin diseases. This includes molecular understanding of the development of aging skin and its prevention as well as mechanisms-based clinical rejuvenation. The book also focuses on research to develop mechanisms-based anti-skin-aging products.

Who to Release? - Nicola Padfield 2013-03-07

This book is concerned to explore the changing role of the Parole Board across the range of its responsibilities, including the prediction of risk and deciding on the release (or continued detention) of the growing number of recalled prisoners and of those subject to indeterminate

sentences. In doing so it aims to rectify the lack of attention that has been given by lawyers, academics and practitioners to back door sentencing (where the real length of a sentence is decided by those who take the decision to release) compared to front door sentencing' (decisions taken by judges or magistrates in court). Particular attention is given in this book to the important changes made to the role and working of the Parole Board as a result of the impact of the early release scheme of the Criminal Justice Act 2005, with the Parole Board now deciding in Panels concerned with determinate sentence prisoners, lifers and recalled prisoners. A wide range of significant issues, and case law, has arisen as a result of these changes, which the contributors to this book, leading authorities in the field, aim to explore.

Bra n Agi ng David R. Riddle 2007-04-19

Recognition that aging is not the accumulation of disease, but rather comprises fundamental biological processes that are amenable to experimental study, is the basis for the recent growth of experimental biogerontology. As increasingly sophisticated studies provide greater understanding of what occurs in the aging brain and how these changes occur

Impact of Hearing Loss on Aging Processes: Current Understanding, Mechanisms, and Treatment Strategies - Rodolfo Sardone 2022-11-02

Future Lithium-ion Batteries - Ali Eftekhari 2019-03-14

Lithium-ion batteries are an established technology with recent large-scale batteries finding emerging markets for electric vehicles and household energy storage. Battery research during the past two decades has focussed on practical improvements to available batteries, such as cell design to enhance energy density, which are currently nearing their maximum potential. We must now consider alternative avenues of research in pursuit of a new breakthrough in this technology. This book collects authoritative perspectives from leading researchers to project the emerging opportunities in the field of lithium-ion batteries. Covering topics including anode and cathode materials, electrolytes, emerging

markets and the challenges and opportunities of lithium-ion battery supply, it will provide researchers with cutting-edge leads to advance the next generation of materials. Edited by a pioneer in the field, and with contributions from experts from across the globe, this book will be of use to graduate students and researchers in academia and industry interested in lithium-ion batteries and energy storage.

Molecular Mechanisms of Aging Konrad Beyreuther 2012-12-06

Lithium Process Chemistry - Alexandre Chagnes 2015-09-01

"Lithium Process Chemistry: Resources, Extraction, Batteries and Recycling" presents, for the first time, the most recent developments and state-of-the-art of lithium production, lithium-ion batteries, and their recycling. The book provides fundamental and theoretical knowledge on hydrometallurgy and electrochemistry in lithium-ion batteries, including terminology related to these two fields. It is of particular interest to electrochemists who usually have no knowledge in hydrometallurgy and hydrometallurgists not familiar with electrochemistry applied to Li-ion batteries. It is also useful for both teachers and students, presenting an overview on Li production, Li-ion battery technologies, and lithium battery recycling processes that is accompanied by numerous graphical presentations of different battery systems and their electrochemical performances. The book represents the first time that hydrometallurgy and electrochemistry on lithium-ion batteries are assembled in one unique source. Provides fundamental and theoretical knowledge on hydrometallurgy and electrochemistry in lithium-ion batteries. Represents the first time that hydrometallurgy and electrochemistry on lithium-ion batteries are assembled in one unique source. Ideal for both electrochemists who usually have no knowledge in hydrometallurgy and hydrometallurgists not familiar with electrochemistry applied to Li-ion batteries. Presents recent developments, as well as challenges in lithium production and lithium-ion battery technologies and their recycling. Covers examples of Li processes production with schematics, also including numerous graphical presentations of different battery systems and their electrochemical performances.

review on aging mechanisms of different li-ion batteries

Advances in Metabolic Mechanisms of Aging and Its Related Diseases - Katia Aquilano 2020-12-18

This eBook is a collection of articles from a Frontiers Research Topic. Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact.

Mechanisms and Pathways Contributing to the Diversity of Aging across the Tree of Life - Joris Deelen 2022-03-11

The Concise Corsini Encyclopedia of Psychology and Behavioral Science - W. Edward Craighead 2004-04-12

Edited by high caliber experts, and contributed to by quality researchers and practitioners in psychology and related fields. Includes over 500 topical entries. Each entry features suggested readings and extensive cross-referencing. Accessible to students and general readers. Edited by two outstanding scholars and clinicians.

Micro-Optics and Energy Jacob J. Lamb 2020-06-11

This book provides a brief research source for optical fiber sensors for energy production and storage systems, discussing fundamental aspects as well as cutting-edge trends in sensing. This volume provides industry professionals, researchers and students with the most updated review on technologies and current trends, thus helping them identify technology gaps, develop new materials and novel designs that lead to commercially viable energy storage systems.

Frailty and Herbal Medicines- From Molecular Mechanisms to Clinical Efficacy - Akio Inui 2020-05-28

Handbook of Research on Economic and Social Impacts of Population Aging - Bayar, Yilmaz 2021-06-25

The increases in global wealth and the developments in the field of health have led to decreases in mortality rates, increases in life expectancy, and decreases in fertility rate, leading to a population that is rapidly consisting more and more of older individuals. The demographic changes affect nearly all parts of society including economics, education, health, social security systems, socio-cultural activities, and more. Thus, it is essential to study the impacts that an aging population will have on society. The Handbook of Research on Economic and Social Impacts of Population Aging analyzes the economic and social impacts of population aging from a multidisciplinary perspective. Covering topics such as life expectancy, social welfare, health, social security, and more, this book is essential for social scientists, sociologists, demographers, economists, medical professionals, government officials, policymakers, professionals, researchers, managers, students, and academicians looking to understand the effects of an aging population on modern society.

Communities in Action - National Academies of Sciences, Engineering, and Medicine 2017-04-27

In the United States, some populations suffer from far greater disparities in health than others. Those disparities are caused not only by fundamental differences in health status across segments of the population, but also because of inequities in factors that impact health status, so-called determinants of health. Only part of an individual's health status depends on his or her behavior and choice; community-wide problems like poverty, unemployment, poor education, inadequate housing, poor public transportation, interpersonal violence, and decaying neighborhoods also contribute to health inequities, as well as the historic and ongoing interplay of structures, policies, and norms that shape lives. When these factors are not optimal in a community, it does not mean they are intractable: such inequities can be mitigated by social policies that can shape health in powerful ways. **Communities in Action: Pathways to Health Equity** seeks to delineate the causes of and the solutions to health inequities in the United States. This report focuses on what communities can do to promote health equity, what actions are needed by the many and varied stakeholders that are part of

communities or support them, as well as the root causes and structural barriers that need to be overcome.

Sustainability in Energy and Buildings - John Littlewood 2019-10-26

This volume contains the proceedings of the 11th KES International Conference on Sustainability and Energy in Buildings 2019 (SEB19) held in Budapest, 4th -5th July 2019 organised by KES International in partnership with Cardiff Metropolitan University, Wales, UK. SEB-19 invited contributions on a range of topics related to sustainable buildings and explored innovative themes regarding sustainable energy systems. The aim of the conference was to bring together researchers, and government and industry professionals to discuss the future of energy in buildings, neighbourhoods and cities from a theoretical, practical, implementation and simulation perspective. The conference formed an exciting chance to present, interact, and learn about the latest research and practical developments on the subject. The conference attracted submissions from around the world. Submissions for the Full-Paper Track were subjected to a blind peer-review process. Only the best of these were selected for presentation at the conference and publication in these proceedings. It is intended that this volume provides a useful and informative snapshot of recent research developments in the important and vibrant area of Sustainability in Energy and Buildings.

Brain Networks for Studying Healthy and Pathological Aging

Mechanisms and Intervention Efficacy - Christos Frantzidis

2020-11-18

Previous studies showed that both healthy and pathological aging are associated with changes in brain structure and function of the mature human brain. The most prominent anatomical alteration are changes in prefrontal cortex morphology, volume loss and reduced white-matter integrity and hippocampal atrophy. Cognitive decline affects mainly the performance of episodic memory, speed of sensory information processing, working memory, inhibitory function and long-term memory. It has been also proposed that due to the aforementioned changes the aging brain engages in compensatory brain mechanism such as a broader activation of cortical regions (mainly frontal) rather than

specialized activation. Evidence suggests that similar changes occur with pathological aging but to a greater extent. In this case information flow is disrupted due to neurodegeneration, functional activation of posterior (occipito-temporal) regions is decreased and as a consequence the brain fails to process sensorial input in the ventral pathway and cognitive deficits appear. In the last years, functional alterations associated with aging have been studied using the mathematical notion of graph theory that offers an integrative approach since it examines different properties of the brain network: 1) Organization level 2) amount of local information processing, 3) information flow 4) cortical community structure and 5) identification of functional / anatomical hubs. So, graph theory offers an attractive way to model brain networks organization and to quantify their pathological deviations. Previous studies have already employed this mathematical notion and demonstrated that age-related neurodegeneration is often accompanied by loss of optimal network organization either due to diminished local information processing or due to progressive isolation of distant brain regions. They have also found that changes in network properties may be present even in the preclinical phase, which could be taken as a biological marker of disease. [Aging Mechanisms](#) - Nozomu Mori 2019-03-21

This book brings together the most up-to-date information on recent research results of leading laboratories on aging science in East Asia, particularly in Japan, Korea, and Hong Kong. Starting with a comprehensive overview of various hypotheses on biological mechanisms of aging by Dr. Sataro Goto, each chapter covers broad aspects of the most recent findings in aging-related topics: centenarian studies and genome analysis of progeria, metabolic biochemistry and neurobiology, longevity controls in yeast and nematodes, oxidative stress and calorie restriction, and neurodegeneration mechanisms in Alzheimer's and Huntington's diseases, with further potential therapeutic approaches to these age-related neurodegenerative diseases. Also included, in part, is a summary and the outcomes of a scientific discussion forum called the Asian Aging Core for Longevity (AACL) that has been held annually alternating between Japan and Korea during the last decade. This book

can serve as a useful resource for finding appropriate collaborators in the areas it covers. The target readership is made up of graduate students and researchers at universities, medical and/or life-science schools, and biomedical and pharmaceutical institutes. Why does aging exist? How do we age? How is each organism's lifespan determined? These are fundamental questions in the field. We may be still far from achieving a complete view of aging mechanisms, but this book, *Aging Mechanisms*, offers an excellent opportunity to become familiar with the most updated progress in the biomedical research of aging in Japan and Korea, the two leading nations for human longevity.

Cellular Senescence: Causes, Consequences and Therapeutic Opportunities - Elizabeth Lara Ostler 2022-04-04

Aging Mechanisms II - Nozomu Mori

This book describes the recent advancement of basic research on the biology of aging and longevity studies in various organisms, as well as the neurobiology of aging and neurodegeneration mechanisms. Chapters present new findings and conceptual developments concerning the basic mechanisms of aging and longevity determination. As a follow-up volume to the previous book *Aging Mechanisms* (2015), it overviews the rapid progress of aging research introducing new topics from leading laboratories in Japan. Chapter contributors are selected based on recent scientific achievements on the mechanisms of aging in various model organisms, including yeast, worm (*C. elegans*), fly (*Drosophila*), mice, and rats. Chapters are ordered from the discussion on molecular and cellular levels to physiological and systemic levels. The book also provides an overview of aging science in the region and helps readers quickly grasp who is doing what in this research area. As the aging of population becomes an ever more pressing issue in Asia, advancing the understanding of basic mechanisms of organism aging and longevity determination will be crucial to developing more effective therapies and protective strategies. Researchers and graduate students in biomedical aging research will find this as a rich source of information and a stimulus to novel research directions.