

Hygienic Design Neugart

The world population has been increasing day by day, and demand for food is rising. Despite that, the natural resources are decreasing, and production of food is getting difficult. At the same time, about one-quarter of what is produced never reaches the consumers due to the postharvest losses. Therefore, it is of utmost importance to efficiently handle, store, and utilize produce to be able to feed the world, reduce the use of natural resources, and help to ensure sustainability. At this point, postharvest handling is becoming more important, which is the main determinant of the postharvest losses. Hence, the present book is intended to provide useful and scientific information about postharvest handling of different produce.

This reference work provides comprehensive information about the bioactive molecules presented in our daily food and their effect on the physical and mental state of our body. Although the concept of functional food is new, the consumption of selected food to attain a specific effect existed already in ancient civilizations, namely of China and India. Consumers are now more attentive to food quality, safety and health benefits, and the food industry is led to develop processed- and packaged-food, particularly in terms of calories, quality, nutritional value and bioactive molecules. This book covers the entire range of bioactive molecules presented in daily food, such as carbohydrates, proteins, lipids, isoflavonoids, carotenoids, vitamin C, polyphenols, bioactive molecules presented in wine, beer and cider. Concepts like French paradox, Mediterranean diet, healthy diet of eating fruits and vegetables, vegan and vegetarian diet, functional foods are described with suitable case studies. Readers will also discover a very timely compilation of methods for bioactive molecules analysis. Written by highly renowned scientists of the field, this reference work appeals to a wide readership, from graduate students, scholars, researchers in the field of botany, agriculture, pharmacy, biotechnology and food industry to those involved in manufacturing, processing and marketing of value-added food products.

This book describes the concept, characteristics, methodology, design, management, business, recent advances and future technologies of plant factories with artificial lighting (PFAL) and indoor vertical farms. The third wave of PFAL business started in around 2010 in Japan and Taiwan, and in USA and Europe it began in about 2013 after the rapid advances in LED technology. The book discusses the basic and advanced developments in recent PFALs and future smart PFALs that emerged in 2016. There is an emerging interest around the globe in smart PFAL R&D and business, which are expected to play an important role in urban agriculture in the coming decades. It is also expected that they will contribute to solving the trilemma of food, environment and natural resources with increasing urban populations and decreasing agricultural populations and arable land area. Current obstacles to successful PFAL R&D and business are: 1) no well-accepted concepts and methodology for PFAL design and management, 2) lack of understanding of the environmental effects on plant growth and development and hydroponics among engineers; 3) lack of understanding of the technical and engineering aspects of PFAL among horticulturists; 4) lack of knowledge of the technical challenges and opportunities in future PFAL businesses among business professionals, policy makers, and investors and 5) lack of a suitable textbook on the recent advances in PFAL technologies and business for graduate students and young researchers. This book covers all the aspects of successful smart PFAL R & D and business.

The research project CuveWaters developed and implemented adapted technologies and accompanying measures to support the national process towards an Integrated Water Resources Management (IWRM). The aim is to give people in the Cuvelai-Etoshia Basin reliable access to clean water over the long term, thus enhancing their livelihood and health, and to create job opportunities. IWRM relies on solutions that use various sources, types and qualities of water for different purposes. CuveWaters implemented pilot plants for rain- and floodwater harvesting, groundwater desalination, as well as facilities for sanitation and water reuse. Technical components of the project were framed by societal and scientific components. Integrated Water Resources Management in Water-scarce Regions provides a comprehensive view on the complexity and interconnectedness of findings and conclusions regarding the principle strategic approach within the CuveWaters project 's concept. The book aims to present the work of technical, social and natural scientists but also of media professionals: It gives thematically focussed details on the three technology-based solutions which go beyond mere technical considerations and embed this into the overarching process towards IWRM in Namibia. Finally, it critically addresses lessons learnt and limits of projects in the context of research for implementation. This book is of great value to experts, professionals and also students and academics in the areas of water management, technology development and implementation and transdisciplinary science.

Strategic Repositioning in the Horticultural Sector

III-Nitride Ultraviolet Emitters

Beginner's Guide to SOLIDWORKS 2021 - Level I

The Wisconsin Blue Book

Advances in Nutrition and Cancer 2

African Indigenous Vegetables in Kenya

AutoCAD 2021 for Architectural Design: A Power Guide for Beginners and Intermediate Users textbook is designed for instructor-led courses as well as for self-paced learning. It is intended to help architects, designers, and CAD operators interested in learning AutoCAD for creating 2D architectural drawings. This textbook is a great help for new AutoCAD users and a great teaching aid for classroom training. This textbook consists of 12 chapters, and a total of 488 pages covering tools and commands of the Drafting & Annotation workspace of AutoCAD. The textbook teaches you to use AutoCAD software for creating, editing, plotting, and managing real world 2D architectural drawings. Table of Contents: Chapter 1. Introduction to AutoCAD Chapter 2. Creating Drawings - I Chapter 3. Working with Drawing Aids and Layers Chapter 4. Creating Drawings - II Chapter 5. Modifying and Editing Drawings - I Chapter 6. Working with Blocks and Xrefs Chapter 7. Working with Dimensions and Dimensions Style Chapter 8. Editing Dimensions and Adding Text Chapter 9. Modifying and Editing Drawings - II Chapter 10. Hatching and Gradients Chapter 11. Working with Layouts Chapter 12. Printing and Plotting

With increasing energy prices and the drive to reduce CO2 emissions, food industries are challenged to find new technologies in order to reduce energy consumption, to meet legal requirements on emissions, product/process safety and control, and for cost reduction and increased quality as well as functionality. Extraction is one of the promising innovation themes that could contribute to sustainable growth in the chemical and food industries. For example, existing extraction technologies have considerable technological and scientific bottlenecks to overcome, such as often requiring up to 50% of investments in a new plant and more than 70% of total process energy used in food, fine chemicals and pharmaceutical industries. These shortcomings have led to the consideration of the use of new "green" techniques in extraction, which typically use less solvent and energy, such as microwave extraction. Extraction under extreme or non-classical conditions is currently a dynamically developing area in applied research and industry. Using microwaves, extraction and distillation can now be completed in minutes instead of hours with high reproducibility, reducing the consumption of solvent, simplifying manipulation and work-up, giving higher purity of the final product, eliminating post-treatment of waste water and consuming only a fraction of the energy normally needed for a conventional extraction

method. Several classes of compounds such as essential oils, aromas, anti-oxidants, pigments, colours, fats and oils, carbohydrates, and other bioactive compounds have been extracted efficiently from a variety of matrices (mainly animal tissues, food, and plant materials). The advantages of using microwave energy, which is a non-contact heat source, includes more effective heating, faster energy transfer, reduced thermal gradients, selective heating, reduced equipment size, faster response to process heating control, faster start-up, increased production, and elimination of process steps. This book will present a complete picture of the current knowledge on microwave-assisted extraction (MAE) of bioactive compounds from food and natural products. It will provide the necessary theoretical background and details about extraction by microwaves, including information on the technique, the mechanism, protocols, industrial applications, safety precautions, and environmental impacts.

This third book in the Trilogy of Traditional Foods, part of the ISEKI Food Series, covers the beneficial properties of functional foods from across the world. The volume is divided into four sections that address different key topics in the area of study. Part I provides a general overview of the material, with chapters on functional aspects of antioxidants and probiotics in traditional food. This section also includes chapters on the potential health benefits of Thai, Slovak and Turkish traditional foods. Part II contains eight chapters on cereal-based foods, including chapters on Carob flour, products from Mexican Chia, and the ancient grain Cañahua. Part III is devoted to plant based foods and includes chapters on dates from Israel, medical properties of cactus products from Mexico, beneficial properties of Mastic gum from the Greek island Chios, and the properties of Argan oil from Morocco. Part IV focuses on Honey and Beverages, with chapters on functional and nutritional properties of honey and the properties of Camellia tea, as well as the Spanish drink Horchata De Chufa. The purpose of the book is to describe and sometimes evaluate properties of foods that native consumers have believed to be beneficial. All chapters are written by practicing Food Scientists or Engineers but are written with the interested general public in mind. The book should cater to the practicing food professional as well as all who are interested in beneficial properties of traditional foods.

Autodesk Fusion 360: A Power Guide for Beginners and Intermediate Users (4th Edition) textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers, interested in learning Fusion 360, to create 3D mechanical designs. This textbook is a great help for new Fusion 360 users and a great teaching aid for classroom training. This textbook consists of 14 chapters, a total of 750 pages covering major workspaces of Fusion 360 such as DESIGN, ANIMATION, and DRAWING. The textbook teaches you to use Fusion 360 mechanical design software for building parametric 3D solid components and assemblies as well as creating animations and 2D drawings. This edition of textbook has been developed using Autodesk Fusion 360 software version: 2.0.9313 (November 2020 Product Update). This textbook not only focuses on the usages of the tools/commands of Fusion 360 but also on the concept of design. Every chapter in this textbook contains tutorials that provide users with step-by-step instructions for creating mechanical designs and drawings with ease. Moreover, every chapter ends with hands-on test drives that allow users to experience for themselves the user friendly and powerful capacities of Fusion 360. Table of Contents: Chapter 1. Introducing Fusion 360 Chapter 2. Drawing Sketches with Autodesk Fusion 360 Chapter 3. Editing and Modifying Sketches Chapter 4. Applying Constraints and Dimensions Chapter 5. Creating Base Feature of Solid Models Chapter 6. Creating Construction Geometries Chapter 7. Advanced Modeling - I Chapter 8. Advanced Modeling - II Chapter 9. Patterning and Mirroring Chapter 10. Editing and Modifying 3D Models Chapter 11. Working with Assemblies - I Chapter 12. Working with Assemblies - II Chapter 13. Creating Animation of a Design Chapter 14. Working with Drawings

Theory and Practice

African Indigenous Vegetables in Urban Agriculture

Recent Trends and Applications

Microwave-assisted Extraction for Bioactive Compounds

Smart Plant Factory

Development of A High Throughput Method

Principles and Practice

This book is intended to help new users learn the basic concepts of SOLIDWORKS and good solid modeling techniques in an easy to follow guide that includes video instruction. It is a great starting point for those new to SOLIDWORKS or as a teaching aid in classroom training to become familiar with the software's interface, basic commands and strategies as users complete a series of models while learning different ways to accomplish a particular task. At the end of this book, you will have a fairly good understanding of the SOLIDWORKS interface and the most commonly used commands for part modeling, assembly and detailing after completing a series of components and their 2D drawings complete with Bill of Materials. The book focuses on the processes to complete the modeling of a part, instead of focusing on individual software commands or operations, which are generally simple enough to learn. Throughout this book the author introduces you to new commands that are required to pass the Certified SOLIDWORKS Associate exam, as listed on the SOLIDWORKS website. A dedicated chapter provides you with details about the exam, as well as a practice test to help you prepare for the actual exam. SOLIDWORKS is an easy to use CAD software that includes many time saving tools that will enable new and experienced users to complete design tasks faster than before. Most commands covered in this book have advanced options, which may not be covered in this book. This is meant to be a starting point to help new users to learn the basic and most frequently used commands.

This book provides a comprehensive overview of the state-of-the-art in group III-nitride based ultraviolet LED and laser

technologies, covering different substrate approaches, a review of optical, electronic and structural properties of InAlGaN materials as well as various optoelectronic components. In addition, the book gives an overview of a number of key application areas for UV emitters and detectors, including water purification, phototherapy, sensing, and UV curing. The book is written for researchers and graduate level students in the area of semiconductor materials, optoelectronics and devices as well as developers and engineers in the various application fields of UV emitters and detectors.

Integrated Water Resources Management in Water-scarce Regions Water Harvesting, Groundwater Desalination and Water Reuse in Namibia IWA Publishing

SOLIDWORKS Sheet Metal Design 2021 textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers interested in learning SOLIDWORKS for creating real-world sheet metal components. This textbook is a great help for SOLIDWORKS users new to sheet metal design. It consists of total 132 pages covering the sheet metal design environment of SOLIDWORKS. It teaches users to use SOLIDWORKS mechanical design software for creating parametric 3D sheet metal components. This textbook not only focuses on the usage of the tools and commands of SOLIDWORKS for creating sheet metal components but also on the concept of design. It contains Tutorials followed by theory that provide users with step-by-step instructions for creating sheet metal components. Moreover, it ends with Hands-on Test Drives which allow users to experience the user friendly and technical capabilities of SOLIDWORKS.

Cold Physical Plasma for Medical Application

Nonequilibrium Atmospheric Pressure Plasma Jets

Advanced Mass Spectrometry in Modern Food Science and Nutrition

Olive Mill Waste

Foodomics

Physiological, Biochemical and Genetic Perspectives

Improving the Safety of Fresh Fruit and Vegetables

Full Color edition SOLIDWORKS Simulation 2019: A Power Guide for Beginners and Intermediate Users textbook is designed for instructor-led courses as well as for self-paced learning. It is intended to help engineers and designers interested in learning finite element analysis (FEA) using SOLIDWORKS Simulation. This textbook benefits new SOLIDWORKS Simulation users and is a great teaching aid in classroom training. It consists of 10 chapters, total 394 pages covering various types of finite element analysis (FEA) such as Linear Static Analysis, Buckling Analysis, Fatigue Analysis, Frequency Analysis, Drop Test Analysis, and Non-linear Static Analysis. This textbook covers important concepts and methods used in finite element analysis (FEA) such as Preparing Geometry, Boundary Conditions (load and fixture), Element Types, Contacts, Connectors, Meshing, Mesh Controls, Mesh Quality Check (Jacobian Check and Aspect Ratio), Adaptive Meshing (H-Adaptive and P-Adaptive), Iterative Methods (Newton-Raphson Scheme and Modified Newton-Raphson Scheme), Incremental Methods (Force, Displacement, or Arc Length), and so on. This textbook not only focuses on the usages of the tools of SOLIDWORKS Simulation but also on the fundamentals of finite element analysis (FEA) through various real-world case studies. The case studies used in this textbook allow users to solve various real-world engineering problems, step-by-step. Moreover, the Hands-on test drives are given at the end of the chapters which allow users to experience the user friendly and technical capabilities of SOLIDWORKS Simulation. Every chapter begins with learning objectives related to the topics covered in that chapter. Moreover, every chapter ends with a summary which lists the topics learned in that chapter followed by questions to assess the knowledge. Table of Contents: Chapter 1. Introduction to FEA and SOLIDWORKS Simulation Chapter 2. Introduction to Analysis Tools and Static Analysis Chapter 3. Case Studies of Static Analysis Chapter 4. Contacts and Connectors Chapter 5. Adaptive Mesh Methods Chapter 6. Buckling Analysis Chapter 7. Fatigue Analysis Chapter 8. Frequency Analysis Chapter 9. Drop Test Analysis Chapter 10. Non-Linear Static Analysis Main Features of the Textbook Comprehensive coverage of tools Step-by-step real-world case studies Hands-on test drives to enhance the skills at the end of chapters Additional notes and tips Customized content for faculty (PowerPoint Presentations) Free learning resources for students and faculty Technical support for the book: info@cadartifex.com

This book provides a comprehensive synthesis of current knowledge of the potential and challenges associated with the multiple roles, use, management and livelihood contributions of indigenous vegetables in urban agriculture in sub-Saharan Africa. There has been growing research and policy effort around urban agriculture in the region over the last two decades, but never has it been integrated with work on under-researched crops such as

indigenous vegetables. These species have multiple advantages, including low input requirements, adaptability to African environments, high nutritional value and marked biodiversity, cultural and local food security significance. Yet they are overlooked in the modern world, where recent emphasis has been directed to growing a limited range of exotic crops, both for internal markets and for export to developed country markets. This book provides evidence that, in spite of this neglect, in many African cities indigenous vegetables are still widely used, cultivated and marketed. It goes on to consider their potential to contribute to income generation and poverty alleviation of the growing numbers of urban dwellers in sub-Saharan Africa, whilst promoting urban greening and sustainability. Based on critical analysis of the debates it presents a multidisciplinary analysis of the realities and future opportunities.

A high standard of hygiene is a prerequisite for safe food production, and the foundation on which HACCP and other safety management systems depend. Edited and written by some of the world's leading experts in the field, and drawing on the work of the prestigious European Hygienic Engineering and Design Group (EHEDG), Hygiene in food processing provides an authoritative and comprehensive review of good hygiene practice for the food industry. Part one looks at the regulatory context, with chapters on the international context, regulation in the EU and the USA. Part two looks at the key issue of hygienic design. After an introductory chapter on sources of contamination, there are chapters on plant design and control of airborne contamination. These are followed by a sequence of chapters on hygienic equipment design, including construction materials, piping systems, designing for cleaning in place and methods for verifying and certifying hygienic design. Part three then reviews good hygiene practices, including cleaning and disinfection, personal hygiene and the management of foreign bodies and insect pests. Drawing on a wealth of international experience and expertise, Hygiene in food processing is a standard work for the food industry in ensuring safe food production. An authoritative and comprehensive review of good hygiene practice for the food industry Draws on the work of the prestigious European Hygienic Engineering and Design Group (EHEDG) Written and edited by world renowned experts in the field

This book presents a detailed overview and critical evaluation of recent advances and remaining challenges in improving nutritional quality and/or avoiding the accumulation of undesirable substances in plants using a variety of strategies based on modern biological tools and techniques. Each review chapter provides an authoritative and insightful account of the various aspects of nutritional enhancement of plants. In the course of the last two decades, several food crops rich in macro- and micronutrients have been developed to improve health and protect a large section of the populace in developing countries from chronic diseases. Providing extensive information on these developments, this book offers a valuable resource for all researchers, students and industrialists working in agriculture, the plant sciences, agronomy, horticulture, biotechnology, food and nutrition, and the soil and environmental sciences.

The Genus Thymus

Drug Design and Discovery in Alzheimer's Disease

Technology and Applications

SOLIDWORKS Simulation 2019: a Power Guide for Beginners and Intermediate Users

Brassica Improvement

Bioactive Molecules in Food

Nutritional Quality Improvement in Plants

Plants, unlike animals, are sessile. This demands that adverse changes in their environment are quickly recognized, distinguished and responded to with suitable reactions. Drought, heat, cold and salinity are among the major abiotic stresses that adversely affect plant growth and productivity. In general, abiotic stress often causes a series of morphological, physiological, biochemical and molecular changes that unfavorably affect plant growth, development and productivity. Drought, salinity, extreme temperatures (cold and heat) and oxidative stress are often interrelated; these conditions singularly or in combination induce cellular damage. To cope with abiotic stresses, of paramount significance is to understand plant responses to abiotic stresses that disturb the homeostatic equilibrium at cellular and molecular level in order to identify a common mechanism for multiple stress tolerance. This multi authored edited compilation attempts to put forth an all-inclusive biochemical and molecular picture in a systems approach wherein mechanism and adaptation aspects of abiotic stress are dealt with. The chief objective of the book hence is to deliver state of the art information for comprehending the effects of abiotic stress in plants at the cellular level.

The genus Thymus consists of about 350 species of perennial, aromatic herbs and subshrubs native to Europe and North Africa. Various types of thyme are used all over the globe as condiments, ornamentals and sources of essential oil. Thyme oil (distilled from its leaves) is among the world's top ten essential oils, displaying antibacterial, antimyco

This book constitutes the proceedings of the 13th International Conference on Social, Cultural, and Behavioral Modeling, SBP-BRiMS 2020, which was planned to take place in Washington, DC, USA. Due to the COVID-19 pandemic the conference was held online during October 18-21, 2020. The 33 full papers presented in this volume were carefully reviewed and selected from 66 submissions. A wide number of disciplines are represented including computer science, psychology, sociology, communication science, public health, bioinformatics, political science, and organizational science. Numerous types of computational methods are used, such as machine learning, language technology, social network analysis and visualization, agent-based simulation, and statistics.

Autodesk Inventor 2022: A Power Guide for Beginners and Intermediate Users textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers, interested in learning Autodesk Inventor, to create 3D mechanical designs. This textbook is an excellent guide for new Inventor users and a great teaching aid for classroom training. It consists of 14 chapters and a total of 790 pages covering major environments of Autodesk Inventor such as Sketching environment, Part modeling environment, Assembly environment, Presentation environment, and Drawing environment. The textbook teaches you to use Autodesk Inventor mechanical design software for building parametric 3D solid components and assemblies as well as creating animations and 2D drawings. This textbook not only focuses on the usages of the tools/commands of Autodesk Inventor but also on the concept of design. Every chapter in this textbook contains Tutorials that provide users with step-by-step instructions for creating mechanical designs and drawings with ease. Moreover, every chapter ends with Hands-on Test Drives that allow users to experience for themselves the user friendly and powerful capacities of Autodesk Inventor.

Measurement of Antioxidant Activity and Capacity

Fundamentals, Diagnostics, and Medical Applications

Traditional Food Knowledge: New Wine Into Old Wineskins?

Integrated Water Resources Management in Water-scarce Regions

Cold Plasma in Food and Agriculture

African Perspectives

Functional Properties of Traditional Foods

Nonequilibrium atmospheric pressure plasma jets (N-APPJs) generate plasma in open space rather than in a confined chamber and can be utilized for applications in medicine. This book provides a complete introduction to this fast-emerging field, from the fundamental physics, to experimental approaches, to plasma and reactive species diagnostics. It provides an overview of the development of a wide range of plasma jet devices and their fundamental mechanisms. The book concludes with a discussion of the exciting application of plasmas for cancer treatment. The book provides details on experimental methods including expert tips and caveats. covers novel devices driven by various power sources and the impact of operating conditions on concentrations and fluxes of the reactive species. discusses the latest advances including theory, modeling, and simulation approaches. gives an introduction, overview and details on state of the art diagnostics of small scale high gradient atmospheric pressure plasmas. covers the use of N-APPJs for cancer applications, including discussion of destruction of cancer cells, mechanisms of action, and selectivity studies. XinPei Lu is a Chair Professor in the School of Electrical and Electronic Engineering at Huazhong University of Science and Technology. Stephan Reuter is currently Visiting Professor at Université Paris-Saclay. In a recent Alexander von Humboldt research fellowship at Princeton University, he performed ultrafast laser spectroscopy on cold plasmas. Mounir Laroussi is Professor of Electrical and Computer Engineering and director of the Plasma Engineering and Medicine Institute at Old Dominion University. He is a Fellow of IEEE and recipient of an IEEE Merit Award. DaWei Liu is Professor in the School of Electrical and Electronic Engineering at Huazhong University of Science and Technology.

Drug Design and Discovery in Alzheimer's Disease includes expert reviews of recent developments in Alzheimer's disease (AD) and neurodegenerative disease research.

Originally published by Bentham as Frontiers in Drug Design and Discovery, Volume 6 and now distributed by Elsevier, this compilation of the sixteen articles, written by leading global researchers, focuses on key developments in the understanding of the disease at molecular levels, identification and validation of molecular targets, as well as innovative approaches towards drug discovery, development, and delivery. Beginning with an overview of AD pharmacotherapy and existing blockbuster drugs, the reviews cover the potential of both natural and synthetic small molecules; the role of cholinesterases in the on-set and progression of AD and their inhibition; the role of beta-site APP clearing enzyme-1 (BACE-1) in the production of β -amyloid proteins, one of the key reasons of the progression of AD; and other targets identified for AD drug discovery. Edited and written by leading experts in Alzheimer's disease (AD) and other neurodegenerative disease drug development Describes existing drugs for AD and current molecular understanding of the condition Reviews recent advances in the field, including coverage of cholinesterases, BACE-1, and other drug development targets

Provides the latest "-omics" tools to advance the study of food and nutrition The rapidly emerging field of foodomics examines food and nutrition by applying advanced "-omics" technologies in order to improve people's health, well-being, and knowledge. Using tools from genomics, transcriptomics, epigenomics, proteomics, and metabolomics, foodomics offers researchers new analytical approaches to solve a myriad of current challenges in food and nutrition science. This book presents the fundamentals of foodomics, exploring the use of advanced mass spectrometry techniques in food science and nutrition in the post-genomic era. The first chapter of the book offers an overview of foodomics principles and applications. Next, the book covers: Modern instruments and methods of proteomics, including the study and characterization of food quality,

antioxidant food supplements, and food allergens Advanced mass spectrometry-based methods to study transgenic foods and the microbial metabolome Mass spectrometry-based metabolomics in nutrition and health research Foodomics' impact on our current understanding of micronutrients (phenolic compounds and folates), optimal nutrition, and personalized nutrition and diet related diseases Principles and practices of lipidomics and green foodomics Use of chemometrics in mass spectrometry and foodomics The final chapter of Foodomics explores the potential of systems biology approaches in food and nutrition research. All the chapters conclude with references to the primary literature, enabling readers to explore individual topics in greater depth. With contributions from a team of leading pioneers in foodomics, this book enables students and professionals in food science and nutrition to take advantage of the latest tools to advance their research and open up new areas of food and nutrition investigation.

This book presents the state of the art in clinical plasma medicine and outlines translational research strategies. Written by an international group of authors, it is divided into four parts. Part I is a detailed introduction and includes basic and recent research information on plasma sciences, plasma devices and mechanisms of biological plasma effects. Parts II and III provide valuable clinical insights f.e. into the treatment of superficial contaminations, ulcerations, wounds, treatment of cells in cancer, special indications like in heart surgery, dentistry, palliative treatment in head and neck cancer or the use of plasma in hygiene. Part IV offers information on how and where to qualify in plasma medicine and which companies produce and supply medical devices and is thus of particular interest to medical practitioners. This comprehensive book offers a sciences based practical to the clinical use of plasma and includes an extended selection of scientific medical data and translational literature.

Autodesk Fusion 360: A Power Guide for Beginners and Intermediate Users (4th Edition)

Water Harvesting, Groundwater Desalination and Water Reuse in Namibia

Comprehensive Clinical Plasma Medicine

AutoCAD 2021 for Architectural Design: A Power Guide for Beginners and Intermediate Users

Who Owns Whom

Ethnopharmacology of Wild Plants

Full Color Edition

Superfoods and functional foods are receiving increasing attention because of their important roles in health. This book focuses on the production of superfoods and functional foods and their role as medicine. In the early chapters, prominent researchers introduce the roles and production of microalgae and functional fruits through metabolic engineering, the use of food waste, and effective cooking procedures. In the latter chapters, other prominent researchers introduce the medical effects of polyphenols, glutamine, and unsaturated fatty acids, which are contained in superfoods and functional foods. They suggest the importance of superfoods and functional foods in the treatment and prevention of many diseases. It is also recommended for readers to take a look at a related book, Superfood and Functional Food: An Overview of Their Processing and Utilization.

With fresh produce identified as a significant source of contaminants, Improving the Safety of Fresh Fruit and Vegetables reviews research on identifying and controlling hazards and its implications for food processors. Addressing major hazards, including pathogens and pesticide residues, the text discusses ways of controlling these hazards through techniques such as HACCP and risk assessment. It analyzes the range of decontamination and preservation processes, from alternatives to hypochlorite washing systems and ozone decontamination to good practice in storage and transport. With an international team of contributors, this is an invaluable reference for those in the fruit and vegetable industry.

Olive Mill Waste: Recent Advances for Sustainable Management addresses today's most relevant topics in olive oil industry sustainable management. Emphasizing recent advisable practices, the book explores the potential of reutilizing OMW to power the mill itself, the reuse of OMW as soil amendment, aerobic biological treatment of OMW and compost production, the case study of OMW within the biorefinery concept, the recovery of bioactive compounds from OMW, and their applications in food products and cosmetics. Recent research efforts have concluded that the successful management of OMW focuses on three main routes: (a) reuse of water, (b) reuse of polyphenols, and (c) reuse of nutrients. Following this consideration, the book covers sustainable practices in the olive oil industry, revealing opportunities for reutilizing the water of OMW within the process or as soil amendment. At the same time, it explores all the possibilities of recovering polyphenols and reutilizing them in target products, such as foods and cosmetics. In addition, the book presents successful cases of industrial OMW valorization through real world experiences. Covers the most recent advances in the field of olive mill waste management following sustainability principles Fills the gap of transfer knowledge between academia and industry Explores the advantages, disadvantages and real potential of processes and products in the market

This book focuses on food security and safety issues in Africa, a continent presently challenged with malnutrition and food insecurity. The continuous increase in the human population of Africa will lead to higher food demands, and climate change has already affected food production in most parts of Africa, resulting in drought, reduced crop yields, and loss of livestock and income. For Africa to be food-secure, safe and nutritious food has to be available, well-distributed, and sufficient to meet people's food requirements. Contributors to Food Security and Safety: African Perspectives offer solutions to the lack of adequate safe and nutritious food in sub-Saharan Africa, as well as highlight the positive efforts being made to address this lack through a holistic approach. The book discusses the various methods used to enhance food security, such as food fortification, fermentation, genetic modification, and plant breeding for improved yield and resistance to diseases. Authors emphasize the importance of hygiene and food safety in food preparation and preservation, and address how the constraints of climate change could be overcome using smart crops. As a comprehensive reference text, Food Security and Safety: African Perspectives seeks to address challenges specific to the African continent while enhancing the global knowledge base around food security, food safety, and food production in an era of rapid climate change.

13th International Conference, SBP-BRiMS 2020, Washington, DC, USA, October 18-21, 2020, Proceedings

Recent Advances for Sustainable Management

The Next Generation Indoor Vertical Farms

Autodesk Inventor 2022: A Power Guide for Beginners and Intermediate Users

SOLIDWORKS Sheet Metal Design 2021

Fundamentals and Applications

The Development of Superfoods and Their Roles as Medicine

A comprehensive reference for assessing the antioxidant potential of foods and essential techniques for developing healthy food products Measurement of Antioxidant Activity and Capacity offers a much-needed resource for assessing the antioxidant potential of food and includes proven approaches for creating healthy food products. With contributions from world-class experts in the field, the text presents the general mechanisms underlying the various assessments, the types of molecules detected, and the key advantages and disadvantages of each method. Both thermodynamic (i.e. efficiency of scavenging reactive species) and kinetic (i.e. rates of hydrogen atom or electron transfer reactions) aspects of available methods are discussed in detail. A thorough description of all available methods provides a basis and rationale for developing standardized antioxidant capacity/activity methods for food and nutraceutical sciences and industries. This text also contains data on new antioxidant measurement techniques including nanotechnological methods in spectroscopy and electrochemistry, as well as on innovative assays combining several principles. Therefore, the comparison of conventional methods versus novel approaches is made possible. This important resource: Offers suggestions for assessing the antioxidant potential of foods and their components Includes strategies for the development of healthy functional food products Contains information for identifying antioxidant activity in the body Presents the pros and cons of the available antioxidant determination methods, and helps in the selection of the most appropriate method Written for researchers and professionals in the nutraceutical and functional food industries, academia and government laboratories, this text includes the most current knowledge in order to form a common language between research groups and to contribute to the solution of critical problems existing for all researchers working in this field.

SOLIDWORKS 2021: A Power Guide for Beginners and Intermediate Users textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers interested in learning SOLIDWORKS for creating 3D mechanical design. This textbook is a great help for new SOLIDWORKS users and a great teaching aid in classroom training. This textbook consists of 14 chapters, with a total of 798 pages covering the major environments of SOLIDWORKS such as Sketching environment, Part modeling environment, Assembly environment, and Drawing environment. This textbook teaches users to use SOLIDWORKS mechanical design software for creating parametric 3D solid components, assemblies, and 2D drawings. This textbook also includes a chapter on creating multiple configurations of a design. This textbook not only focuses on the usage of the tools and commands of SOLIDWORKS but also on the concept of design. Every chapter in this textbook contains tutorials that provide users with step-by-step instructions for creating mechanical designs and drawings with ease. Moreover, every chapter ends with hands-on test drives which allow users to experience the user friendly and technical capabilities of SOLIDWORKS.

This book focuses on light-emitting diode (LED) lighting, mainly for the commercial production of horticultural crops in plant factories and greenhouses with controlled environments, giving special attention to: 1) plant growth and development as affected by the light environment; and 2) business and technological opportunities and challenges with regard to LEDs. The book contains more than 30 chapters grouped into seven parts: 1) overview of controlled-environment agriculture and its significance; 2) the effects of ambient light on plant growth and development; 3) optical and physiological characteristics of plant leaves and canopies; 4) greenhouse crop production with supplemental LED lighting; 5) effects of light quality on plant physiology and morphology; 6) current status of commercial plant factories under LED lighting; and 7) basics of LEDs and LED lighting for plant cultivation. LED lighting for urban agriculture in the forthcoming decades will not be just an advanced form of current urban agriculture. It will be largely based on two fields: One is a new paradigm and rapidly advancing concepts, global technologies for LEDs, information and communication technology, renewable energy, and related expertise and their methodologies; the other is basic science and technology that should not change for the next several decades. Consideration should be given now to future urban agriculture based on those two fields. The tremendous potentials of LED lighting for urban agriculture are stimulating many people in various fields including researchers, businesspeople, policy makers, educators, students, community developers, architects, designers, and entrepreneurs. Readers of this book will understand the principle, concept, design, operation, social roles, pros and cons, costs and benefits of LED lighting for urban agriculture, and its possibilities and challenges for solving local as well as global agricultural, environmental, and social issues.

This volume includes contributions presented at the Second International Symposium on Nutrition and Cancer, held in Naples, Italy, in October 1998 at the National Tumor Institute "Fondazione Pascale." During the Conference, experts from different disciplines discussed pivotal and timely subjects on the interactions between human nutrition and the development of malignancies. Comparing the themes of this Meeting with those discussed at the First Symposium in 1992, the major scientific advancements certainly derive from the extensive use of molecular approaches to perform research in nutrition. Moreover, the fundamental observation of R. Doll and R. Peto (1981), which suggested that at least 35% of all cancers (with large differences among different tumors) might be prevented by dietary regimens, has been definitively confirmed by epidemiological studies. On the other hand, the relationships between diet and cancer are quite intricate and complex; it is difficult, and at the same time not methodologically correct, to reduce them to simple terms. Metabolic and hormonal factors, contaminants and biological agents, and deficiency of specific protective nutrients are all pieces of the same puzzle.

LED Lighting for Urban Agriculture

Food Security and Safety

Thyme

Continental Europe

Hygiene in Food Processing

Superfood and Functional Food

AutoCAD 2022: A Power Guide for Beginners and Intermediate Users

Wild plants signify a vital health and economic constituent of biodiversity. In recent years, research interest on wild plants has increased. This book contains valuable information on wild plants and their ethnopharmacological properties. It deliberates on traditional usage and ethnopharmacological properties of wild plants. It will be useful to policy makers, researchers working in the areas of biodiversity, ethnopharmacology, ethno-biology, conservation biology and biodiversity prospecting.

AutoCAD 2022: A Power Guide for Beginners and Intermediate Users textbook is designed for instructor-led courses as well as for self-paced learning. It is intended to help engineers, designers, and CAD operators interested in learning AutoCAD for creating 2D engineering drawings as well as 3D Models. This textbook is a great help for new AutoCAD users and a great teaching aid for classroom training. This textbook consists of 13 chapters, and a total of 546 pages covering major workspaces of AutoCAD such as Drafting & Annotation and 3D Modeling. This textbook teaches you to use AutoCAD software for creating, editing, plotting, and managing real world 2D engineering drawings and 3D Models. This textbook not only focuses on the usage of the tools/commands of AutoCAD but also on the concept of design. Every chapter of this textbook contains tutorials that provide users with step-by-step instructions on how to create mechanical designs and drawings with ease. Moreover, every chapter ends with hands-on test drives which allow users to experience themselves the user friendly and powerful capabilities of AutoCAD.

Global population is mounting at an alarming stride to surpass 9.3 billion by 2050, whereas simultaneously the agricultural productivity is gravely affected by climate changes resulting in increased biotic and abiotic stresses. The genus Brassica belongs to the mustard family whose members are known as cruciferous vegetables, cabbages or mustard plants. Rapeseed-mustard is world's third most important source of edible oil after soybean and oil palm. It has worldwide acceptance owing to its rare combination of health promoting factors. It has very low levels of saturated fatty acids which make it the healthiest edible oil that is commonly available. Apart from this, it is rich in antioxidants by virtue of tocopherols and phyosterols presence in the oil. The high omega 3 content reduces the risk of atherosclerosis/heart attack. Conventional breeding methods have met with limited success in Brassica because yield and stress resilience are polygenic traits and are greatly influenced by environment. Therefore, it is imperative to accelerate the efforts to unravel the biochemical, physiological and molecular mechanisms underlying yield, quality and tolerance towards biotic and abiotic stresses in Brassica. To exploit its fullest potential, systematic efforts are needed to unlock the genetic information for new germplasms that tolerate initial and terminal state heat coupled with moisture stress. For instance, wild relatives may be exploited in developing introgressed and resynthesized lines with desirable attributes. Exploitation of heterosis is another important area which can be achieved by introducing transgenics to raise stable CMS lines. Doubled haploid breeding and marker assisted selection should be employed along with conventional breeding. Breeding programmes aim at enhancing resource use efficiency, especially nutrient and water as well as adoption to aberrant environmental changes should also be considered. Biotechnological interventions are essential for altering the biosynthetic pathways for developing high oleic and low linolenic lines. Accordingly, tools such as microspore and ovule culture, embryo rescue, isolation of trait specific genes especially for aphid, Sclerotinia and alternaria blight resistance, etc. along with identification of potential lines based on genetic diversity can assist ongoing breeding programmes. In this book, we highlight the recent molecular, genetic and genomic interventions made to achieve crop improvement in terms of yield increase, quality and stress tolerance in Brassica, with a special emphasis in Rapeseed-mustard.

Cold Plasma in Food and Agriculture: Fundamentals and Applications is an essential reference offering a broad perspective on a new, exciting, and growing field for the food industry. Written for researchers, industry personnel, and students interested in nonthermal food technology, this reference will lay the groundwork of plasma physics, chemistry, and technology, and their biological applications. Food scientists and food engineers interested in understanding the theory and application of nonthermal plasma for food will find this book valuable because it provides a roadmap for future developments in this emerging field. This reference is also useful for biologists, chemists, and physicists who wish to understand the fundamentals of plasma physics, chemistry, and technology and their biological interactions through applying novel plasma sources to food and other sensitive biomaterials. Examines the topic of cold plasma technology for food applications Demonstrates state-of-the-art developments in plasma technology and potential solutions to improve food safety and quality Presents a solid introduction for readers on the topics of plasma physics and chemistry that are required to understand biological applications for foods Serves as a roadmap for future developments for food scientists, food engineers, and biologists, chemists, and physicists working in this emerging field

Social, Cultural, and Behavioral Modeling

SOLIDWORKS 2021: A Power Guide for Beginners and Intermediate Users

Abiotic Stress Response in Plants

Molecular, Genetics and Genomic Perspectives

Postharvest Handling