2014 Fast

Applied Public Relations

With its practical orientation and scope, Applied Public Relations is the ideal text for any public relations case studies or public relations management course that places an emphasis on stakeholder groups. Through the presentation of current cases covering a wide variety of industries, locations, and settings, Kathy Richardson and Marcie Hinton examine how real organizations develop and maintain their relationships, offering valuable insights into business and organizational management practices. The book’s organization of case studies allows instructors to use the text in several ways: instructors can focus on specific stakeholders by using the chapters presented; they can focus on particular issues, such as labor relations or crisis management by selecting cases from within several chapters; or they can select cases that contrast campaigns with ongoing programs or managerial behaviors. A focus on ethics and social responsibility underlies the book, and students are challenged to assess the effectiveness of the practices outlined and understand the ethical implications of those choices. This Third Edition features: 25 new and current domestic and international case studies specifically chosen for their relevancy and relatability to students New \"Professional Insights\" commentaries where practitioners respond to a set of questions relating to their work Increased emphasis on ethics and social responsibility Fully enhanced companion website that is connected with the text, including a test bank and PowerPoint presentations for instructors, and chapter-specific discussion questions and additional readings for students

Shared-Memory Parallelism Can be Simple, Fast, and Scalable

Parallelism is the key to achieving high performance in computing. However, writing efficient and scalable parallel programs is notoriously difficult, and often requires significant expertise. To address this challenge, it is crucial to provide programmers with high-level tools to enable them to develop solutions easily, and at the same time emphasize the theoretical and practical aspects of algorithm design to allow the solutions developed to run efficiently under many different settings. This thesis addresses this challenge using a three-pronged approach consisting of the design of shared-memory programming techniques, frameworks, and algorithms for important problems in computing. The thesis provides evidence that with appropriate programming techniques, frameworks, and algorithms, shared-memory programs can be simple, fast, and scalable, both in theory and in practice. The results developed in this thesis serve to ease the transition into the multicore era. The first part of this thesis introduces tools and techniques for deterministic parallel programming, including means for encapsulating nondeterminism via powerful commutative building blocks, as well as a novel framework for executing sequential iterative loops in parallel, which lead to deterministic parallel algorithms that are efficient both in theory and in practice. The second part of this thesis introduces Ligra, the first high-level shared memory framework for parallel graph traversal algorithms. The framework allows programmers to express graph traversal algorithms using very short and concise code, delivers performance competitive with that of highly-optimized code, and is up to orders of magnitude faster than existing systems designed for distributed memory. This part of the thesis also introduces Ligra+, which extends Ligra with graph compression techniques to reduce space usage and improve parallel performance at the same time, and is also the first graph processing system to support in-memory graph compression. The third and fourth parts of this thesis bridge the gap between theory and practice in parallel algorithm design by introducing the first algorithms for a variety of important problems on graphs and strings that are efficient both in theory and in practice. For example, the thesis develops the first linear-work and polylogarithmic-depth algorithms for suffix tree construction and graph connectivity that are also practical, as well as a work-efficient, polylogarithmic-depth, and cache-efficient shared-memory algorithm for triangle computations that achieves a 2–5x speedup over the best existing algorithms on 40 cores. This is a revised version of the thesis that won the 2015 ACM Doctoral Dissertation Award.

Recasting Workers' Power

Much of the debate on the future of work has focused on responses to technological trends in the Global North, with little evidence on how these trends are impacting work and workers in the Global South. Drawing on a rich selection of ethnographic studies of precarious work in Africa, this innovative book discusses how globalisation and digitalisation are drivers for structural change and examines their implications for labour. Bringing together global labour studies and inequality studies, it explores the role of digital technology in new business models, and ways in which digitalisation can be harnessed for counter mobilisation by the new worker.

Compromised Data

There has been a data rush in the past decade brought about by online communication and, in particular, social media (Facebook, Twitter, Youtube, among others), which promises a new age of digital enlightenment. But social data is compromised: it is being seized by specific economic interests, it leads to a fundamental shift in the relationship between research and the public good, and it fosters new forms of control and surveillance. Compromised Data: From Social Media to Big Data explores how we perform critical research within a compromised social data framework. The expert, international lineup of contributors explores the limits and challenges of social data research in order to invent and develop new modes of doing public research. At its core, this collection argues that we are witnessing a fundamental reshaping of the social through social data mining.

The Sociology of Speed

There is a widespread perception that life is faster than it used to be. We hear constant laments that we live too fast, that time is scarce, and that the pace of everyday life is spiraling out of our control. The iconic image that abounds is that of the frenetic, technologically tethered, iPhone/iPad-addicted citizen. Yet weren't modern machines supposed to save, and thereby free up, time? The purpose of this book is to bring a much-needed sociological perspective to bear on speed: it examines how speed and acceleration came to signify the zeitgeist, and explores the political implications of this. Among the major questions addressed are: when did acceleration become the primary rationale for technological innovation and the key measure of social progress? Is acceleration occurring across all sectors of society and all aspects of life, or are some groups able to mobilise speed as a resource while others are marginalised and excluded? Does the growing centrality of technological mediations (of both information and communication) produce slower as well as faster times, waiting as well as 'busyness', stasis as well as mobility? To what extent is the contemporary imperative of speed as much a cultural artefact as a material one? To make sense of everyday life in the twenty-first century, we must begin by interrogating the social dynamics of speed. This book shows how time is a collective accomplishment, and that temporality is experienced very differently by diverse groups of people, especially between the affluent and those who service them.

The Impact of Systems Medicine on Human Health and Disease

Complex disorders including obesity, diabetes, fatty liver disease, cardiovascular disease and cancer are results from a combination of genetic, environmental and lifestyle factors. The prevalence of such disorders has increased dramatically in the last two decades and there is an urgent need for the development of new prognostic tools for the treatment of such diseases. However, this requires a deep understanding of the underlying molecular mechanisms involved in the occurrence of the diseases. With the advances in high throughput technologies, biological components of cells can be measured with a very high resolution and these data can be used for investigating whole systems properties using a network-based approach. Systems medicine provides an integrative platform for studying the interactions between the biological components of the cell using a holistic approach and generating mechanistic explanations for the emergent systems

properties. This inter-disciplinary field of study allows for understanding biological processes of cells in health and disease states, gaining new insights into what drives the appearance of the disease and finally identifying proteins and metabolites implicated in human disease. Systems medicine utilizes mathematical approaches to generate models which can be employed for designing new sets of experiments and for mapping the response of the system to perturbations quantitatively. These models as well as the developed tools can accelerate the emergence of personalized medicine which can transform the practice of medicine and offer better targets for drug development with minimum side effects.

Disruptive Technologies in International Business

New technologies such as artificial intelligence, blockchain, the Internet of Things (IoT), etc. are redefining business processes around the world at a rapid rate and resulting in both great opportunities and challenges for businesses. Though these technologies are extensively being used in developed countries, emerging economies are also not far behind. Disruptive Technologies in International Business advances the understanding of technological applications in business within an international paradigm. With its in-depth discussions of diverse topics such as the global value chain (GVC), environmental risk management, IoT, Surface Mobility, and anime, the book argues that technologies offer many advantages but there are accompanying risks, challenges, and disadvantages as well. The need of the hour is to address the impact of these technologies on the environment, society, and economy of the world. This book offers a collage of insights on how these technologies can potentially change the playing field in businesses and countries and contribute to the betterment of society. This book will provide business practitioners, international organizations, government officials, and policy makers with inspiration and new leads toward more efficient systems, policies, and operational frameworks in our increasingly technology-driven society.

Social Media Marketing

A fully updated edition of the award winning textbook for social media marketing. With new case studies on a number of brands including TikTok, Puma and Nespresso and an updated companion website, this book is a must for anyone studying social media marketing.

RGB-D Image Analysis and Processing

This book focuses on the fundamentals and recent advances in RGB-D imaging as well as covering a range of RGB-D applications. The topics covered include: data acquisition, data quality assessment, filling holes, 3D reconstruction, SLAM, multiple depth camera systems, segmentation, object detection, salience detection, pose estimation, geometric modelling, fall detection, autonomous driving, motor rehabilitation therapy, people counting and cognitive service robots. The availability of cheap RGB-D sensors has led to an explosion over the last five years in the capture and application of colour plus depth data. The addition of depth data to regular RGB images vastly increases the range of applications, and has resulted in a demand for robust and real-time processing of RGB-D data. There remain many technical challenges, and RGB-D image processing is an ongoing research area. This book covers the full state of the art, and consists of a series of chapters by internationally renowned experts in the field. Each chapter is written so as to provide a detailed overview of that topic. RGB-D Image Analysis and Processing will enable both students and professional developers alike to quickly get up to speed with contemporary techniques, and apply RGB-D imaging in their own projects.

Routledge Handbook of Behavioral Economics

There is no doubt that behavioral economics is becoming a dominant lens through which we think about economics. Behavioral economics is not a single school of thought but representative of a range of approaches, and uniquely, this volume presents an overview of them. The wide spectrum of international contributors each provides an exploration of a central approach, aspect or topic in behavorial economics.

Taken together, the whole volume provides a comprehensive overview of the subject which considers both key developments and future possibilities. Part One presents several different approaches to behavioural economics, including George Katona, Ken Boulding, Harvey Leibenstein, Vernon Smith, Herbert Simon, Gerd Gigerenzer, Daniel Kahneman, and Richard Thaler. This section looks at the origins and development of behavioral economics and compares and contrasts the work of these scholars who have been so influential in making this area so prominent. Part Two presents applications of behavioural economics including nudging; heuristics; emotions and morality; behavioural political economy, education, and economic innovation. The Routledge Handbook of Behavioral Economics is ideal for advanced economics students and faculty who are looking for a complete state-of-the-art overview of this dynamic field.

Sustainable Resource Management

Sustainable Resource Management Learn how current technologies can be used to recover and reuse waste products to reduce environmental damage and pollution In this two-volume set, Sustainable Resource Management: Technologies for Recovery and Reuse of Energy and Waste Materials delivers a compelling argument for the importance of the widespread adoption of a holistic approach to enhanced water, energy, and waste management practices. Increased population and economic growth, urbanization, and industrialization have put sustained pressure on the world’s environment, and this book demonstrates how to use organics, nutrients, and thermal heat to better manage wastewater and solid waste to deal with that reality. The book discusses basic scientific principles and recent technological advances in current strategies for resource recovery from waste products. It also presents solutions to pressing problems associated with energy production during waste management and treatment, as well as the health impacts created by improper waste disposal and pollution. Finally, the book discusses the potential and feasibility of turning waste products into resources. Readers will also enjoy: A thorough introduction and overview to resource recovery and reuse for sustainable futures An exploration of hydrothermal liquefaction of food waste, including the technology’s use as a potential resource recovery strategy A treatment of resource recovery and recycling from livestock manure, including the current state of the technology and future prospects and challenges A discussion of the removal and recovery of nutrients using low-cost adsorbents from single-component and multi-component adsorption systems Perfect for water and environmental chemists, engineers, biotechnologists, and food chemists, Sustainable Resource Management also belongs on the bookshelves of environmental officers and consultants, chemists in private industry, and graduate students taking programs in environmental engineering, ecology, or other sustainability related fields.

Advances in Time-Domain Computational Electromagnetic Methods

Advances in Time-Domain Computational Electromagnetic Methods Discover state-of-the-art time domain electromagnetic modeling and simulation algorithms Advances in Time-Domain Computational Electromagnetic Methods delivers a thorough exploration of recent developments in time domain computational methods for solving complex electromagnetic problems. The book discusses the main time domain computational electromagnetics techniques, including finite-difference time domain (FDTD), finite-element time domain (FETD), discontinuous Galerkin time domain (DGTD), time domain integral equation (TDIE), and other methods in electromagnetic, multiphysics modeling and simulation, and antenna designs. The book bridges the gap between academic research and real engineering applications by comprehensively surveying the full picture of current state-of-the-art time domain electromagnetic simulation techniques. Among other topics, it offers readers discussions of automatic load balancing schemes for DG-FETD/SETD methods and convolution quadrature time domain integral equation methods for electromagnetic scattering. Advances in Time-Domain Computational Electromagnetic Methods also includes: Introductions to cylindrical, spherical, and symplectic FDTD, as well as FDTD for metasurfaces with GSTC and FDTD for nonlinear metasurfaces Explorations of FETD for dispersive and nonlinear media and SETD-DDM for periodic/ quasi-periodic arrays Discussions of TDIE, including explicit marching-on-in-time solvers for second-kind time domain integral equations, TD-SIE DDM, and convolution quadrature time domain integral equation methods for electromagnetic scattering Treatments of deep learning, including time domain

electromagnetic forward and inverse modeling using a differentiable programming platform Ideal for undergraduate and graduate students studying the design and development of various kinds of communication systems, as well as professionals working in these fields, Advances in Time-Domain Computational Electromagnetic Methods is also an invaluable resource for those taking advanced graduate courses in computational electromagnetic methods and simulation techniques.

Nigeria-India Relations in a Changing World

Nigeria-India Relations in a Changing World covers critical issues in the relations between these two countries in a single volume. Even though the relationship between Nigeria and India is characterized by a sense of continuity, changes in the world since the end of the Cold War have necessitated that the two countries recalibrate their foreign policies and adjust their domestic economies along with their approaches to governance. Sharkdam Wapmuk provides an in-depth examination of the contextual, theoretical, and historical foundations of Nigeria-India relations. He analyzes Nigerian and Indian economic relations and contemporary dynamics in strategic engagement between the two countries.The book concludes with an exploration of the new normal for Nigeria-India relations in the context of the COVID-19 pandemic and beyond.

Expected Experiences

This book brings together perspectives on predictive processing and expected experience. It features contributions from an interdisciplinary group of authors specializing in philosophy, psychology, cognitive science, and neuroscience. Predictive processing, or predictive coding, is the theory that the brain constantly minimizes the error of its predictions based on the sensory input it receives from the world. This process of prediction error minimization has numerous implications for different forms of conscious and perceptual experience. The chapters in this volume explore these implications and various phenomena related to them. The contributors tackle issues related to precision estimation, sensory prediction, probabilistic perception, and attention, as well as the role predictive processing plays in emotion, action, psychotic experience, anosognosia, and gut complex. Expected Experiences will be of interest to scholars and advanced students in philosophy, psychology, and cognitive science working on issues related to predictive processing and coding.

Sustainable Investing

A seminal shift has taken place in the world of investing. A clear and overarching reality has emerged which must be solved: financial considerations must factor in sustainability considerations for ongoing societal success, while sustainability issues equally need to be driven by a business case. As a result, investment practices are evolving, especially towards more positive philosophies and frameworks. Sustainable Investing brings the reader up to speed on trends playing out in each region and asset class, drawing on contributions from leading practitioners across the globe. Implications abound for financial professionals and other interested investors, as well as corporations seeking to understand future investment trends that will affect their shareholders’ thinking. Policymakers and other stakeholders also need to be aware of what is happening in order to understand how they can be most effective at helping implement and enable the changes arguably now required for economic and financial success. Sustainable Investing represents an essential overview of sustainable investment practices that will be a valuable resource for students and scholars of sustainable banking and finance, as well as professionals and policymakers with an interest in this fast-moving field.

The World's Fastest Cars

Supercars, race cars, and sports cars all have blazing speed. How do they go so fast? Why do some cars have wings? Learn the answers for yourself and decide which of the fastest cars you'd like to drive.

Microbiology of Green Fuels

The replacement of fossil-derived compounds by bio-based fuels and chemicals is crucial for the implementation of a sustainable bioeconomy. In this context, microorganisms are key players for biofuels' production from renewable sources. Biotechnological biofuel production processes require conversion microorganisms capable of both efficiently assimilating renewable low-cost carbon sources and diverting their metabolisms towards the specific biofuel. Exploring the wide diversity of microorganisms available on Earth will surely aid to make the production of green fuels a reality. This book gives a wide overview of different microbial-based processes for green fuels production. The book also includes techno-economic analysis and highlights strategic, commercial and environmental interests in promoting green fuels. All these facts make this book very valuable not only for the scientific community but also for biofuel companies and policy makers.

Customer Experience Management for Water Utilities

Customer Experience Management for Water Utilities presents a practical framework for water utilities to become more focussed on their customers. This framework is founded on Service-Dominant Logic, a contemporary theory of marketing that explains value creation as a process of co-creation between the customer and the service provider. Standard models for marketing do not apply to monopolistic water utilities without modification. The first two chapters develop a marketing mix tailored to water utilities to assist them with providing customer-centric services. The water utility marketing mix includes the value proposition, internal marketing, service quality and customer relationships. he book discusses the four dimensions of the marketing mix. Chapter three presents a template for developing value propositions to assist water utilities in positioning their service. This model is based on the needs and wants of individual customer segments and the type of service. Chapter four discusses internal marketing, activities designed to improve the way utilities add value for customers. This chapter also analyses potential tensions between engineering and science-oriented employees and proposes methods to resolve these tensions. The final chapters describe customer relationships from both a theoretical and practical perspective. The customer experience is a complex phenomenon that is difficult to quantify. The book provides a method to measure the experience of the customer, based on service quality theory and psychometric statistics. Customer Experience Management for Water Utilities is one of the first books that discusses urban water supply from a marketing perspective. This perspective provides a unique insight into an industry which is often dominated by technological concerns. This book is a valuable resource for Water Utility Managers and Regulators, as well as for Marketing Consultants seeking to assist water utilities to become more customer focussed.

Waste to Biofuel Technology

This book gives an overview of the latest technologies in the conversion of wastes products to biofuel or chemicals which are more eco-friendly and sustainable as compared to the ordinary petroleum derivatives. It describes a variety of technology such as combustion, gasification, paralysis, anaerobic digestion, and fermentation, which are used in the processing of solid/liquid waste produced by the different residential and industrial sectors into more economically useful by-products. The content of this book resonates with researchers, industrial practitioners, and government policymakers who are looking into developing more sustainable practices in dealing with waste products and looking into waste to energy technologies.

Performance Of Initial Public Offerings (Ipos) In India

Plant diseases and pests cause significant losses to farmers and threaten food security worldwide. Monitoring the growing conditions of crops and detecting plant diseases is critical for sustainable agriculture. Traditionally, crop inspection has been carried out by people with expert knowledge in the field. However, regarding any activity carried out by humans, this activity is prone to errors, leading to possible incorrect decisions. Innovation is, therefore, an essential fact of modern agriculture. In this context, deep learning has

played a key role in solving complicated applications with increasing accuracy over time, and recent interest in this type of technology has prompted its potential application to address complex problems in agriculture, such as plant disease and pest recognition. Although substantial progress has been made in the area, several challenges still remain, especially those that limit systems to operate in real-world scenarios.

Advanced AI Methods for Plant Disease and Pest Recognition

In an era where technological progress redefines the boundaries of business and management, ‘Digital Synergy - Innovative Management in the ICT Era’ emerges as a guide for current and aspiring leaders. This book delves into the heart of modern management practices, illuminated by the transformative power of Information and Communication Technologies (ICT) and digital synergy. Facing the relentless pace of change, adaptation, innovation, and the utilization of digital synergy are no longer optional; they are the bedrock of sustainable success. Through a carefully selected collection of theories, case studies, expert insights, and examples of digital synergy, this book provides the foresight and tools necessary to navigate through the complexities of a globalized, digital marketplace. The book is divided into four sections: 1. Financial and strategic management in uncertain times 2. Global trends and management challenges 3. Corporate social responsibility and effective CSR management 4. The future of logistics, with a special focus on military logistics Designed for business leaders, managers, students, and anyone keen on deepening their understanding of how ICT and digital synergy shape management strategies, this book is a call to action. It challenges to not just keep pace with technological progress but to lead the charge in leveraging it for strategic advantage.

Digital Synergy

Beginning to End Hunger presents the story of Belo Horizonte, home to 2.5 million people and the site of one of the world’s most successful city-run food security programs. Since its Municipal Secretariat of Food and Nutritional Security was founded in 1993, Belo Horizonte has sharply reduced malnutrition, leading it to serve as an inspiration for Brazil’s renowned Zero Hunger programs. The secretariat’s work with local family farmers shows how food security, rural livelihoods, and healthy ecosystems can be supported together. While inevitably imperfect, Belo Horizonte offers a vision of a path away from food system dysfunction, unsustainability, and hunger. In this convincing case study, M. Jahi Chappell establishes the importance of holistic approaches to food security, suggests how to design successful policies to end hunger, and lays out strategies for enacting policy change. With these tools, we can take the next steps toward achieving similar reductions in hunger and food insecurity elsewhere in the developed and developing worlds.

Beginning to End Hunger

The book deals with dual role of reactive oxygen species (ROS) which is beneficial and harmful at below and above threshold limits, respectively. To date, the emphasis has been laid only on ROS aspects damaging/ disrupting cellular machinery and inflicting crop productivity loss. The ROS is believed to be a hallmark of both abiotic and biotic stress. However, the recent researches have unambiguously established that the ROS at below threshold confers protection against both abiotic and biotic stress, augmenting crop productivity. This emphasizes for a proper understanding of ROS based physio-molecular mechanisms and their upgradation in crops to adapt them to stress conditions. As a result, the cultivation area of various economically important crops and their productivity and quality can be enhanced, arresting degradation of sites, improving environment quality and mitigating ill impact of climate change. The book encompasses recent information on positive and negative impactof ROS on stress tolerance mechanisms and their management in augmenting crop performance. The information has been well illustrated and categorized in several chapters crafted lucidly, maintaining connectivity and synergy with each other. The book provides up-to-date comprehensive scientific information dual role of ROS, hitherto neglected, in crop abiotic and biotic stress management that would immensely benefit and educate graduate/ post graduate students, entrepreneurs, researchers, scientists and faculty members alike.

Reactive Oxygen Species in Plants

In recent years, information and communication technologies (ICTs) have gained significant importance and become vital to the operations of both organizations and individuals. However, there are numerous factors that have affected the adoption of ICTs including access and accessibility barriers, political participation, and social empowerment. This has attracted the attention of researchers who are interested in understanding the socioeconomic influences of ICT adoption and how these technologies impact the infrastructure of modern organizational activities. Recent Developments in Individual and Organizational Adoption of ICTs is a collection of innovative research on the methods of organizational and infrastructural advancement through the application of information and communication technologies. While highlighting topics including internet banking, supply chain management, and e-government services, this book is ideally designed for managers, researchers, policymakers, politicians, business practitioners, educators, decision scientists, strategists, and students seeking current research on the socioeconomic impact of ICT adoption.

Recent Developments in Individual and Organizational Adoption of ICTs

Environmental Toxicity of Nanomaterials focuses on causes and prevention of environmental toxicity induced by various nanomaterials. In sixteen chapters it describes the basic principles, trends, challenges, and future directions of nanoecotoxicity. The future acceptance of nanomaterials in various industries depends on the impacts of nanomaterials on the environment and ecosystem. This book analyzes the safe utilization of nanotechnology so the tremendous prospect of nanotechnology can be achieved without harming either living beings or the environment. Environmental Toxicity of Nanomaterials introduces nanoecotoxicity, describes various factors affecting the toxicity of nanomaterials, discusses various factors that can impart nanoecotoxicity, reviews various studies in the area of nanoecotoxicity evaluation, and describes the safety and risk assessment of nanomaterials. In addition, the book discusses strategies for mitigating nanoecotoxicity. Lastly, the authors provide guidelines and protocols for nanotoxicity evaluation and discuss regulations for safety assessment of nanomaterials. In addition to environmental toxicologists, this book is aimed at policy makers, industry personnel, and doctoral and postdoctoral scholars.

Environmental Toxicity of Nanomaterials

Taking you on a journey to learn and apply Python programming in the context of the SAS Viya platform, this book includes examples from creating connections to CAS all the way to simple statistics and machine learning. --

SAS Viya

Cognition and the Built Environment argues that interacting with our built environment, as users and as architects, is a cognitive process. It claims that architecture, in its form and meaning, is a basic, embodied level of human cognition. The assumption is that we and our built environment together form an intelligent system, a cognitive feedback loop between us and the world of which we are part. With this as a vantage point, the book discusses the meaning and intelligence of concrete architectural environments as well as the agency of the architect, of his client and of the user. The inquiry oscillates between abstract thought, topological models and cognitive semiotics, between pragmatist philosophy and the professional practice of planning cities, developing projects and using objects. Architecture serves more complex purposes than our caves, paths and landmarks did. Written for students and academics of urban design, urban planning and architectural theory, Cognition and the Built Environment argues that human cognition feeds on the interaction between thought, agency and built environment, and that architecture is the spatial form of this interaction.

Cognition and the Built Environment

Agricultural and Food Electroanalysis offers a comprehensive rationale of electroanalysis, revealing its enormous potential in agricultural food analysis. A unique approach is used which fills a gap in the literature by bringing in applications to everyday problems. This timely text presents in-depth descriptions about different electrochemical techniques following their basic principles, instrumentation and main applications. Such techniques offer invaluable features such as inherent miniaturization, high sensitivity and selectivity, low cost, independence of sample turbidity, high compatibility with modern technologies such as microchips and biosensors, and the use of exciting nanomaterials such as nanoparticles, nanotubes and nanowires. Due to the advantages that modern electroanalytical techniques bring to food analysis, and the huge importance and emphasis given today to food quality and safety, this comprehensive work will be an essential read for professionals and researchers working in analytical laboratories and development departments, and a valuable guide for students studying for careers in food science, technology and chemistry.

Agricultural and Food Electroanalysis

This book aims to synthesize the state of the art on biodiversity knowledge exchange practices to understand where and how improvements can be made to close the knowledge-implementation gap in conservation science and advance this interdisciplinary topic. Bringing together the most prominent scholars and practitioners in the field, the book looks into the various sources used to produce biodiversity knowledge - from natural and social sciences to Traditional Ecological Knowledge and Citizen Science - as well as knowledge mobilization approaches to highlight the key ingredients that render successful conservation action at a global scale. By doing so, the book identified major current challenges and opportunities in the field, for different sectors that generate, mobilize, and use biodiversity knowledge (like academia, boundary organizations, practitioners, and policy-makers), to further develop cross-sectorial knowledge mobilization strategies and enhance evidence-informed decision-making processes globally.

Closing the Knowledge-Implementation Gap in Conservation Science

Provides an extensive, up-to-date treatment of techniques used for machine condition monitoring Clear and concise throughout, this accessible book is the first to be wholly devoted to the field of condition monitoring for rotating machines using vibration signals. It covers various feature extraction, feature selection, and classification methods as well as their applications to machine vibration datasets. It also presents new methods including machine learning and compressive sampling, which help to improve safety, reliability, and performance. Condition Monitoring with Vibration Signals: Compressive Sampling and Learning Algorithms for Rotating Machines starts by introducing readers to Vibration Analysis Techniques and Machine Condition Monitoring (MCM). It then offers readers sections covering: Rotating Machine Condition Monitoring using Learning Algorithms; Classification Algorithms; and New Fault Diagnosis Frameworks designed for MCM. Readers will learn signal processing in the time-frequency domain, methods for linear subspace learning, and the basic principles of the learning method Artificial Neural Network (ANN). They will also discover recent trends of deep learning in the field of machine condition monitoring, new feature learning frameworks based on compressive sampling, subspace learning techniques for machine condition monitoring, and much more. Covers the fundamental as well as the state-of-the-art approaches to machine condition monitoringguiding readers from the basics of rotating machines to the generation of knowledge using vibration signals Provides new methods, including machine learning and compressive sampling, which offer significant improvements in accuracy with reduced computational costs Features learning algorithms that can be used for fault diagnosis and prognosis Includes previously and recently developed dimensionality reduction techniques and classification algorithms Condition Monitoring with Vibration Signals: Compressive Sampling and Learning Algorithms for Rotating Machines is an excellent book for research students, postgraduate students, industrial practitioners, and researchers.

Condition Monitoring with Vibration Signals

The Open Access version of this book, available at https://www.taylorfrancis.com/books/edit/10.1201/9781003082613, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license. This book explains the concept of using phytotechnology with biomass production to improve soil quality and restore contaminated sites to a useful state that has economic and social value. Phytotechnology with Biomass Production: Sustainable Management of Contaminated Sites focuses on the application of second-generation biofuel crops, primarily Miscanthus, to slightly contaminated or marginal postmilitary and postmining soils. Based on recent and ongoing research from the United States, Ukraine, the Czech Republic, and Germany, along with case studies from other countries, this is the first comprehensive book on using phytotechnology with biomass production at contaminated sites at a global level. FEATURES Focuses on an important topic of a growing global activity: soil improvement through biomass production Includes case studies and success stories from different countries on application of Miscanthus phytotechnology to sites differently contaminated by trace elements, pesticides, and petroleum products Discusses the peculiarities of Miscanthus production on postmilitary and postmining contaminated lands and the impact of plant growth regulators, soil amendments, fertilizers, and biochar to the process Introduces soil fauna as indicators of soil health during Miscanthus phytotechnology application Presents Miscanthus value chain associated with the processing of Miscanthus biomass to different bioproducts While written primarily for faculty, students, research scientists, environmental and agricultural professionals, gardeners, farmers, landowners, and government officials, this book has value for all who are working on phytotechnology projects and phytomining to reduce risk and/or improve soil quality at contaminated sites. Phytotechnology with Biomass Production: Sustainable Management of Contaminated Sites is also a great new resource for those who are new to the topic and want to learn to apply phytotechnologies and biomass production with further conversion into energy and bioproducts.

Phytotechnology with Biomass Production

With distributed generation interconnection power flow becoming bidirectional, culminating in network problems, smart grids aid in electricity generation, transmission, substations, distribution and consumption to achieve a system that is clean, safe (protected), secure, reliable, efficient, and sustainable. This book illustrates fault analysis, fuses, circuit breakers, instrument transformers, relay technology, transmission lines protection setting using DIGsILENT Power Factory. Intended audience is senior undergraduate and graduate students, and researchers in power systems, transmission and distribution, protection system broadly under electrical engineering.

Power System Protection in Smart Grid Environment

Explore the cutting-edge of dissolution testing in an authoritative, one-stop resource In Pharmaceutical Dissolution Testing, Bioavailability, and Bioequivalence: Science, Applications, and Beyond, distinguished pharmaceutical advisor and consultant Dr. Umesh Banakar delivers a comprehensive and up-to-date reference covering the established and emerging roles of dissolution testing in pharmaceutical drug development. After discussing the fundamentals of the subject, the included resources go on to explore common testing practices and methods, along with their associated challenges and issues, in the drug development life cycle. Over 19 chapters and 1100 references allow practicing scientists to fully understand the role of dissolution, apart from mere quality control. Readers will discover a wide range of topics, including automation, generic and biosimilar drug development, patents, and clinical safety. This volume offers a one-stop resource for information otherwise scattered amongst several different regulatory regimes. It also includes: A thorough introduction to the fundamentals and essential applications of pharmaceutical dissolution testing Comprehensive explorations of the foundations and drug development applications of bioavailability and bioequivalence Practical discussions about solubility, dissolution, permeability, and classification systems in drug development In-depth examinations of the mechanics of dissolution, including mathematical models and simulations An elaborate assessment of biophysiologically relevant dissolution

testing and IVIVCs, and their unique applications A complete understanding of the methods, requirements, and global regulatory expectations pertaining to dissolution testing of generic drug products Ideal for drug product development and formulation scientists, quality control and assurance professionals, and regulators, Pharmaceutical Dissolution Testing, Bioavailability, and Bioequivalence is also the perfect resource for intellectual property assessors.

Pharmaceutical Dissolution Testing, Bioavailability, and Bioequivalence

The determination of food authenticity is a vital component of quality control. Its importance has been highlighted in recent years by high-profile cases in the global supply chain such as the European horsemeat scandal and the Chinese melamine scandal which led to six fatalities and the hospitalisation of thousands of infants. As well as being a safety concern, authenticity is also a quality criterion for food and food ingredients. Consumers and retailers demand that the products they purchase and sell are what they purport to be. This book covers the most advanced techniques used for the authentication of a vast number of products around the world. The reader will be informed about the latest pertinent analytical techniques. Chapters focus on the novel techniques & markers that have emerged in recent years. An introductory section presents the concepts of food authentication while the second section examines in detail the analytical techniques for the detection of fraud relating to geographical, botanical, species and processing origin and production methods of food materials and ingredients. Finally, the third section looks at consumer attitudes towards food authenticity, the application of bioinformatics to this field, and the Editor’s conclusions and future outlook. Beyond being a reference to researchers working in food authentication it will serve as an essential source to analytical scientists interested in the field and food scientists to appreciate analytical approaches. This book will be a companion to under- and postgraduate students in their wander in food authentication and aims to be useful to researchers in universities and research institutions.

Food Authentication

This book describes modern biophysical techniques that enable us to understand and examine dynamic processes of infection at the molecular level. Cutting-edge research articles, laboratory protocols, case studies and up-to-date reviews cover topics such as single-molecule observation of DNA replication repair pathways in E. coli; evolution of drug resistance in bacteria; restriction enzymes as barriers to horizontal gene transfer in Staphylococcus aureus; infectious and bacterial pathogen biofilms; killing infectious pathogens through DNA damage; bacterial surfaces in host-pathogen interactions; bacterial gene regulation by riboswitches; transcription regulation in enterobacterial pathogens; the bacterial flagellar motor; initial surface colonization by bacteria; Salmonella Typhi host restrictions; as well as monitoring proton motive force in bacteria; microbial pathogens using digital holography; mathematical modelling of microbial pathogen motility; neutron reflectivity in studying bacterial membranes; force spectroscopy in studying infection and 4D multi-photon imaging to investigate immune responses. The focus is on the development and application of complex techniques and protocols at the interface of life sciences and physics, which increase the physiological relevance of biophysical investigations.

Biophysics of Infection

Over the past 20 years, public concerns have grown in response to the apparent rising prevalence of food allergy and related atopic conditions, such as eczema. Although evidence on the true prevalence of food allergy is complicated by insufficient or inconsistent data and studies with variable methodologies, many health care experts who care for patients agree that a real increase in food allergy has occurred and that it is unlikely to be due simply to an increase in awareness and better tools for diagnosis. Many stakeholders are concerned about these increases, including the general public, policy makers, regulatory agencies, the food industry, scientists, clinicians, and especially families of children and young people suffering from food allergy. At the present time, however, despite a mounting body of data on the prevalence, health consequences, and associated costs of food allergy, this chronic disease has not garnered the level of societal

attention that it warrants. Moreover, for patients and families at risk, recommendations and guidelines have not been clear about preventing exposure or the onset of reactions or for managing this disease. Finding a Path to Safety in Food Allergy examines critical issues related to food allergy, including the prevalence and severity of food allergy and its impact on affected individuals, families, and communities; and current understanding of food allergy as a disease, and in diagnostics, treatments, prevention, and public policy. This report seeks to: clarify the nature of the disease, its causes, and its current management; highlight gaps in knowledge; encourage the implementation of management tools at many levels and among many stakeholders; and delineate a roadmap to safety for those who have, or are at risk of developing, food allergy, as well as for others in society who are responsible for public health.

Finding a Path to Safety in Food Allergy

Part of the Encyclopedia of Electrochemistry, this comprehensive, two-volume handbook offers an up-to-date and in-depth review of the battery technologies in use today. It also includes information on the most likely candidates that hold the potential for further enhanced energy and power densities. It contains contributions from a renowned panel of international experts in the field. Batteries are extremely commonplace in modern day life. They provide electrochemically stored energy in the form of electricity to automobiles, aircrafts, electronic devices and to smart power grids. Comprehensive in scope, 'Batteries' covers information on well-established battery technologies such as charge-carrier-based lead acid and lithium ion batteries. The contributors also explore current developments on new technologies such as lithium-sulfur and -oxygen, sodium ion, and full organic batteries. Written for electrochemists, physical chemists, and materials scientists, 'Batteries' is an accessible compendium that offers a thorough review of the most relevant current battery technologies and explores the technology in the years to come.

Batteries

Soil and crop sensing is a fundamental component and the first important step in precision agriculture. Unless the level of soil and crop variability is known, appropriate management decisions cannot be made and implemented. In the last few decades, various ground-based sensors have been developed to measure spatial variability in soil properties and nutrients, crop growth and yield, and pest conditions. Remote sensing as an important data collection tool has been increasingly used to map soil and crop growth variability as spatial, spectral and temporal resolutions of image data have improved significantly in recent years. While identifying spatial variability of soil and crop growth within fields is an important first step towards precision management, using that variability to formulate variable rate application plans of farming inputs such as fertilizers and pesticides is another essential step in precision agriculture.The purpose of this book is to present the historical, current and future developments of soil and crop sensing technologies with fundamentals and practical examples. The first chapter gives an overview of soil and crop sensing technologies for precision crop production. The next six chapters provide details on theories, methods, practical applications, as well as challenges and future research needs for all aspects of soil and crop sensing. The last two chapters show how soil and crop sensing technologies can be used for plant phenotyping and precision fertilization. The chapters are written by some of the world’s leading experts who have contributed significantly to the developments of precision agriculture technologies, especially in the area of soil and crop sensing. They use their knowledge, experiences, and successful stories to present informative and up-to-date information on relevant topics. Therefore, this book is an invaluable addition to the literature and can be used as a reference by scientists, engineers, practitioners, and college students for the dissemination and advancement of precision agriculture technologies for practical applications.

Soil and Crop Sensing for Precision Crop Production

Occupy Wall Street burst onto the stage of history in the fall of 2011. First by the tens, then by the tens of thousands, protestors filled the streets and laid claim to the squares of nearly 1,500 towns and cities, until, one by one, the occupations were forcibly evicted. In The Occupiers, Michael Gould-Wartofsky offers a

front-seat view of the action in the streets of New York City and beyond. Painting a vivid picture of everyday life in the square through the use of material gathered in the course of two years of on-the-ground investigation, Gould-Wartofsky traces the occupation of Zuccotti Park--and some of its counterparts across the United States and around the world--from inception to eviction. He takes up the challenges the occupiers faced, the paradoxes of direct democracy, and the dynamics of direct action and police action and explores the ways in which occupied squares became focal points for an emerging opposition to the politics of austerity, restricted democracy, and the power of corporate America. Much of the discussion of the Occupy phenomenon has treated it as if it lived and died in Zuccotti Park, but Gould-Wartofsky follows the evicted occupiers into exile and charts their evolving strategies, tactics, and tensions as they seek to resist, regroup, and reoccupy. Displaced from public spaces and news headlines, the 99 Percent movement has spread out from the financial centers and across an America still struggling to recover in the aftermath of the crisis. Even if the movement fails to achieve radical reform, Gould-Wartofsky maintains, its offshoots may well accelerate the pace of change in the United States in the years to come.

The Occupiers