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LEWIS BRONSON

[Optimization of Manufacturing Processes](#) Elsevier

This book adds to the research of urban informality in the Global South with a specific focus on South Africa and Zimbabwe. It addresses the agency and the potential transformative capacity of the phenomenon of urban informality in connection with Southern African cities and towns. It adopts a political economy approach to analyse the evolution of informality in cities and its implications for urban planning. It brings to bear how the South African and Zimbabwean historical and/or ideological and contemporary political and economic trajectories have impacted on the ever changing nature of urban informality, both spatially and structurally and/or compositionally; thus resulting in unique urban materialities, which are aspects that have scarcely been studied or discussed in the extant literature. This book, therefore, seeks to close the academic gap by dealing with the dearth of literature on spatial (re)locational discourses of urban informality. The work

positions urban informality as a resilient force with potency in terms of political mobilisation and (re) shaping urban spaces. Though these are fundamental issues, they have received comparatively little attention, especially in literature that focuses on the Southern African region. Accordingly, undergraduate and post-graduate students, as well as academics in the fields of Urban Geography, Political Science, Development Studies, Sociology, Town and Regional Planning among others, will find the range of topics and depth of coverage in this book particularly valuable. Similarly, practitioners and activists on issues of urban informality and urban governance will find the book very useful.

Functionally Graded Materials Oxford University Press

Advances in Nanotechnology Research and Application / 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Nanotechnology. The editors have built Advances in Nanotechnology Research and Application / 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Nanotechnology in this eBook to be deeper than what you can access anywhere else, as well as

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[Advancing Refugee Protection in South Africa](#) Academic Press

Biomedical Applications of Microfluidic Devices introduces the subject of microfluidics and covers the basic principles of design and synthesis of actual microchannels. The book then explores how the devices are coupled to signal read-outs and calibrated, including applications of microfluidics in areas such as tissue engineering, organ-on-a-chip devices, pathogen identification, and drug/gene delivery. This book covers high-impact fields (microarrays, organ-on-a-chip, pathogen detection, cancer research, drug delivery systems, gene delivery, and tissue engineering) and shows how

microfluidics is playing a key role in these areas, which are big drivers in biomedical engineering research. This book addresses the fundamental concepts and fabrication methods of microfluidic systems for those who want to start working in the area or who want to learn about the latest advances being made. The subjects covered are also an asset to companies working in this field that need to understand the current state-of-the-art. The book is ideal for courses on microfluidics, biosensors, drug targeting, and BioMEMs, and as a reference for PhD students. The book covers the emerging and most promising areas of biomedical applications of microfluidic devices in a single place and offers a vision of the future. - Covers basic principles and design of microfluidics devices - Explores biomedical applications to areas such as tissue engineering, organ-on-a-chip, pathogen identification, and drug and gene delivery - Includes chemical applications in organic and inorganic chemistry - Serves as an ideal text for courses on microfluidics, biosensors, drug targeting, and BioMEMs, as well as a reference for PhD students

[The Disruptive Fourth Industrial Revolution](#) Springer Nature

This book provides the technological insight on biorefinery and nanoremediation and provides comprehensive reviews on applications of Biochar for environmental sustainability. Critical review on biosurfactants in food applications as well as sustainable agricultural practices has also been provided in this book. It also highlights the microbial-omics and microRNAs for protecting ecotoxicity. Overall, this book provides critical as well as comprehensive chapters on wastewater treatment using different technologies.

[Decolonisation in Universities](#) Springer Nature

Functionalized Nanomaterials for Biosensing and Bioelectronics Applications: Trends and Challenges describes current and future opportunities for integrating the unique properties of two-dimensional nanomaterials with bioelectronic interfaces. Sections focus on background information and fundamental concepts, review the available functionalized nanomaterials and their properties, explore the integration of functionalized nanomaterials with bioelectronics, including available fabrication and characterization methods, electrical behavior at the interface, and design and synthesis guidelines, and review examples of microsystems where functionalized nanomaterials are being integrated with bioelectronics. This book is suitable for researchers and practitioners in academia and R&D working in materials science and engineering, analytical chemistry and related fields. - Introduces the most common functionalized nanomaterials and their morphologies, properties, and mechanisms for sensing applications - Reviews functionalization and fabrication methods and techniques for the integration of one- and two-dimensional materials for sensing applications - Addresses the most relevant applications of functionalized nanomaterials for biosensing and bioelectronics applications

[Economic Modeling Using Artificial Intelligence Methods](#) Springer Nature

Optical and Molecular Physics: Theoretical Principles and Experimental Methods addresses many important applications and advances in the field. This book is divided into 5 sections: Plasmonics and carbon dots physics with applications Optical films, fibers, and materials Optical properties of advanced materials Molecular physics and diffusion Macromolecular physics Weaving together science and engineering, this new volume addresses important applications and advances in optical and molecular physics. It covers plasmonics and carbon dots physics with applications; optical films, fibers, and materials; optical properties of advanced materials; molecular physics and diffusion; and macromolecular physics. This book looks at optical materials in the development of composite materials for the functionalization of glass, ceramic, and polymeric substrates to interact with electromagnetic radiation and presents state-of-the-art research in preparation methods, optical characterization, and usage of optical materials and devices in various photonic fields. The authors discuss devices and technologies used by the electronics, magnetics, and photonics industries and offer perspectives on the manufacturing technologies used in device fabrication.

[Urban Informality in South Africa and Zimbabwe](#) John Wiley & Sons

Militarized Conflict Modeling Using Computational Intelligence examines the application of computational intelligence methods to model conflict. Traditionally, conflict has been modeled using game theory. The inherent limitation of game theory when dealing with more than three players in a game is the main motivation for the application of computational intelligence in modeling conflict. Militarized interstate disputes (MIDs) are defined as a set of interactions between, or among, states that can result in the display, threat or actual use of military force in an explicit way. These interactions can result in either peace or conflict. This book models the relationship between key variables and the risk of conflict between two countries. The variables

include Allies which measures the presence or absence of military alliance, Contiguity which measures whether the countries share a common boundary or not and Major Power which measures whether either or both states are a major power. Militarized Conflict Modeling Using Computational Intelligence implements various multi-layer perception neural networks, Bayesian networks, support vector machines, neuro-fuzzy models, rough sets models, neuro-rough sets models and optimized rough sets models to create models that estimate the risk of conflict given the variables. Secondly, these models are used to study the sensitivity of each variable to conflict. Furthermore, a framework on how these models can be used to control the possibility of peace is proposed. Finally, new and emerging topics on modelling conflict are identified and further work is proposed.

[Alzheimer's Disease](#) Wits University Press

Across a variety of disciplines, data and statistics form the backbone of knowledge. To ensure the reliability and validity of data, appropriate measures must be taken in conducting studies and reporting findings. Research Methods: Concepts, Methodologies, Tools, and Applications compiles chapters on key considerations in the management, development, and distribution of data. With its focus on both fundamental concepts and advanced topics, this multi-volume reference work will be a valuable addition to researchers, scholars, and students of science, mathematics, and engineering.

[Nanoscience in Medicine Vol. 1](#) Berghahn Books

This book covers terahertz antenna technology for imaging and sensing, along with its various applications. The authors discuss the use of terahertz frequency and photoconductive antenna technology for imaging applications, such as biological and bio-medical applications, non-destructive inspection of fabrics and plastics, analysis of hydration levels or detecting the presence of metallic components in samples, and detecting a variety of materials with unique spectral fingerprints in the terahertz frequency range, such as different types of explosives or several compounds used in the fabrication of medicines. Provides a comprehensive review of terahertz source and detector for imaging and sensing; Discusses photoconductive antenna technology for imaging and sensing; Presents modalities for improving the photoconductive dipole antenna performance for imaging and sensing; Explores applications in tomographic imaging, art conservation and the pharmaceutical and aerospace industries.

[Supported Ionic Liquids](#) Springer

Nearly 44 million people have Alzheimer's or related dementia worldwide, according to the Alzheimer's Disease International organization. That number is expected to double every 20 years. Unlike other books on the market, Alzheimer's Disease: Understanding Biomarkers, Big Data, and Therapy covers recent advancements in cognitive, clinical, neural, and therapeutic aspects of Alzheimer's and other forms of dementia. First, readers are introduced to cognitive and clinical studies, focusing on the different types of memory impairment, past and future thinking. This includes the prevalence of depression, its relationship to other symptoms, and the quality of life for those with Alzheimer's disease. In addition, the book discusses recent studies on memory dysfunction in advanced-stage Alzheimer's disease, in comparison to early-stage, including a chapter on the underlying factors in the transition from mild cognitive impairment to Alzheimer's diagnosis. Following this section, the book presents recent studies on the role of different cortical and subcortical structures in the development of various symptoms in Alzheimer's disease, as well as different neural biomarkers underlying the development and treatment of the disease. In the last section of the book, therapeutic aspects of Alzheimer's disease, focusing on behavioral and pharmacological treatments of sleep disorders, memory problems, and depression, are reviewed. The book aids readers in understanding the advances in research and care, making it a prime tool for all clinicians, psychologists, researchers, neurologists, and caregivers of dementia patients. - Reviews recent developments of cognitive and clinical studies - Covers factors underlying the transition from mild cognitive impairment to Alzheimer's disease - Discusses different neural biomarkers underlying the development and treatment of Alzheimer's disease - Provides a comparison of the effectiveness of various types of treatments

[Functionalized Nanomaterials for Biosensing and Bioelectronics Applications](#) John Wiley & Sons

High-Speed Machining covers every aspect of this important subject, from the basic mechanisms of the technology, right through to possible avenues for future research. This book will help readers choose the best method for their particular task, how to set up their equipment to reduce chatter and wear, and how to use simulation tools to model high-speed machining processes. The

different applications of each technology are discussed throughout, as are the latest findings by leading researchers in this field. For any researcher looking to understand this topic, any manufacturer looking to improve performance, or any manager looking to upgrade their plant, this is the most comprehensive and authoritative guide available. - Summarizes important R&D from around the world, focusing on emerging topics like intelligent machining - Explains the latest best practice for the optimization of high-speed machining processes for greater energy efficiency and machining precision - Provides practical advice on the testing and monitoring of HSM machines, drawing on practices from leading companies

[Artificial Intelligence Techniques for Rational Decision Making](#) Icon Books

A comparison of the strengths and weaknesses of near-infrared, infrared and Raman imaging, focusing on current as well as conceivable applications for chemical analysis in delicate natural and synthetic samples. This handbook and ready reference covers instrumentation for vibrational spectroscopic imaging, chemometric evaluation of spectroscopic images, and vibrational spectroscopic imaging in biology and medicine, as well as the chemical, pharmaceutical and food industries.

[Literary Studies in English](#) CRC Press

This book presents the concept of functionally graded materials as well as their use and different fabrication processes. The authors describe the use of additive manufacturing technology for the production of very complex parts directly from the three dimension computer aided design of the part by adding material layer after layer. A case study is also presented in the book on the experimental analysis of functionally graded material using laser metal deposition process.

[Beyond Bitcoin](#) Elsevier

Divided into three thematic parts to guide the reader, this important volume documents the development and implementation of refugee policy in South Africa over a 10-year period from 1996 until 2006. In doing so, it addresses issues of detention, gender, children and health as well as welfare policies for refugees. The contributions, all written by academics and practitioners of refugee protection, vividly illustrate the tangible shifts and concerns of a process that is not only aimed at establishing policies and legislation but also practices concerning refugees.

[Nanomaterials for Solar Cell Applications](#) NYU Press

Due to inherent limitations in human sensing organs, most data collected for various purposes contain uncertainties. Even at the rare occasions when accurate data are available, the truthful predictions derived on the data tend to create chaotic consequences. So, to effectively process and make sense out of available data, we need methods to deal with uncertainty inherently existing inside the data. The intent of this monograph is to explore the fundamental theory, methods, and techniques of practical application of grey systems theory, initiated by Professor Deng Julong in 1982. This volume presents most of the recent advances of the theory accomplished by scholars from around the world. From studying this book, the reader will not only acquire an overall knowledge of this new theory but also be able to follow the most current research activities. All examples presented are based on practical applications of the theory when urgent real-life problems had to be addressed. Last but not the least, this book concludes with three appendices. The first one compares grey systems theory and interval analysis while revealing the fact that interval analysis is a part of grey mathematics. The second appendix presents an array of different approaches of studying uncertainties. And, the last appendix shows how uncertainties appear using general systems approach.

[Militarized Conflict Modeling Using Computational Intelligence](#) Springer Nature

"This book provide relevant theoretical frameworks covering the latest empirical research findings in the area of grid computing, with a critical perspective bridging the gap between academia and the latest achievements of the computer industry"--Provided by publisher.

[Optical and Molecular Physics](#) Springer Science & Business Media

The book explores technological advances in the fourth industrial revolution (4IR), which is based on a variety of technologies such as artificial intelligence, Internet of Things, machine learning, big data, additive printing, cloud computing, and virtual and augmented reality. Critically analyzing the impacts and effects of these disruptive technologies on various areas, including economics, society, business, government, labor, law, and environment, the book also provides a broad overview of 4IR, with a focus on technologies, to allow readers to gain a deeper understanding of the recent advances and future trajectories. It is intended for researchers, practitioners, policy-makers and industry leaders.

[Terahertz Antenna Technology for Imaging and Sensing Applications](#) CRC Press

Power Line Communications (PLC) is a promising emerging technology, which has attracted much attention due to the wide availability of power distribution lines. This book provides a thorough introduction to the use of power lines for communication purposes, ranging from channel characterization, communications on the physical layer and electromagnetic interference, through to protocols, networks, standards and up to systems and implementations. With contributions from many of the most prominent international PLC experts from academia and industry, Power Line Communications brings together a wealth of information on PLC specific topics that provide the reader with a broad coverage of the major developments within the field. Acts as a single source reference guide to PLC collating information that is widely dispersed in current literature, such as in research papers and standards. Covers both the state of the art, and ongoing research topics. Considers future developments and deployments of PLC

Microbial Nanobiotechnology John Wiley & Sons

After over a decade of Bitcoin, which has now moved beyond lore and hype into an increasingly robust star in the firmament of global assets, a new and more important question has arisen. What

happens beyond Bitcoin? The answer is decentralised finance - 'DeFi'. Tech and finance experts Steven Boykey Sidley and Simon Dingle argue that DeFi - which enables all manner of financial transactions to take place directly, person to person, without the involvement of financial institutions - will redesign the cogs and wheels in the engines of trust, and make the remarkable rise of Bitcoin look quaint by comparison. It will disrupt and displace fine and respectable companies, if not entire industries. Sidley and Dingle explain how DeFi works, introduce the organisations and individuals that comprise the new industry, and identify the likely winners and losers in the coming revolution.

Computational and Data Grids: Principles, Applications and Design Springer

Develops insights into solving complex problems in engineering, biomedical sciences, social science and economics based on artificial intelligence. Some of the problems studied are in interstate conflict, credit scoring, breast cancer diagnosis, condition monitoring, wine testing, image processing and optical character recognition. The author discusses and applies the concept of flexibly-bounded rationality which prescribes that the bounds in Nobel Laureate Herbert Simon's

bounded rationality theory are flexible due to advanced signal processing techniques, Moore's Law and artificial intelligence. Artificial Intelligence Techniques for Rational Decision Making examines and defines the concepts of causal and correlation machines and applies the transmission theory of causality as a defining factor that distinguishes causality from correlation. It develops the theory of rational counterfactuals which are defined as counterfactuals that are intended to maximize the attainment of a particular goal within the context of a bounded rational decision making process. Furthermore, it studies four methods for dealing with irrelevant information in decision making: Theory of the marginalization of irrelevant information Principal component analysis Independent component analysis Automatic relevance determination method In addition it studies the concept of group decision making and various ways of effecting group decision making within the context of artificial intelligence. Rich in methods of artificial intelligence including rough sets, neural networks, support vector machines, genetic algorithms, particle swarm optimization, simulated annealing, incremental learning and fuzzy networks, this book will be welcomed by researchers and students working in these areas.