

Paradox Spectra 1738 User Guide

The Eastern Fertile Crescent region of western Iran and eastern Iraq hosted major developments in the transition from hunter-forager to farmer-herder lifestyles through the Early Neolithic period, 10,000-7000 BC. Within the scope of the Central Zagros Archaeological Project, excavations have been conducted since 2012 at two Early Neolithic sites in the Kurdistan region of Iraq: Bestansur and Shimshara. Bestansur represents an early stage in the transition to sedentary, farming life, where the inhabitants pursued a mixed strategy of hunting, foraging, herding and cultivating, maximising the new opportunities afforded by the warmer, wetter climate of the Early Holocene. They also constructed substantial buildings of mudbrick, including a major building with a minimum of 65 human individuals, mainly infants, buried under its floor in association with hundreds of beads. These human remains provide new insights into mortuary practices, demography, diet and disease during the early stages of sedentarisation. The material culture of Bestansur and Shimshara is rich in imported items such as obsidian, carnelian and sea-shells, indicating the extent to which Early Neolithic communities were networked across the Eastern Fertile Crescent and beyond. This volume includes final reports by a large-scale interdisciplinary team on all aspects of the results from excavations at Bestansur and Shimshara, through application of state-of-the-art scientific techniques, methods and analyses. The net result is to re-emphasise the enormous significance of the Eastern Fertile Crescent in one of the most important episodes in human history: the Neolithic transition.

This book will serve as a primer for both laboratory and field scientists who are shaping the emerging field of molecular epidemiology. Molecular epidemiology utilizes the same paradigm as traditional epidemiology but uses biological markers to identify exposure, disease or susceptibility. Schulte and Perera present the epidemiologic methods pertinent to biological markers. The book is also designed to enumerate the considerations necessary for valid field research and provide a resource on the salient and subtle features of biological indicators. The study of evolution at the molecular level has given the subject of evolutionary biology a new significance. Phylogenetic 'trees' of gene sequences are a powerful tool for recovering evolutionary relationships among species, and can be used to answer a broad range of evolutionary and ecological questions. They are also beginning to permeate the medical sciences. In this book, the authors approach the study of molecular evolution with the phylogenetic tree as a central metaphor. This will equip students and professionals with the ability to see both the evolutionary relevance of molecular data, and the significance evolutionary theory has for molecular studies. The book is accessible yet sufficiently detailed and explicit so that the student can learn the mechanics of the procedures discussed. The book is intended for senior undergraduate and graduate students taking courses in molecular evolution/phylogenetic reconstruction. It will also be a useful supplement for students taking wider courses in evolution, as well as a valuable resource for professionals. First student textbook of phylogenetic reconstruction which uses the tree as a central metaphor of evolution. Chapter summaries and annotated suggestions for further reading. Worked examples facilitate understanding of some of the more complex issues. Emphasis on clarity and accessibility.

An exploration of the production, transmission, and mutation of affective tonality—when sound helps produce a bad vibe. Sound can be deployed to produce discomfort, express a threat, or create an ambience of fear or dread—to produce a bad vibe. Sonic weapons of this sort include the “psychoacoustic correction” aimed at Panama strongman Manuel Noriega by the U.S. Army and at the Branch Davidians in Waco by the FBI, sonic booms (or “sound bombs”) over the Gaza Strip, and high-frequency rat repellants used against teenagers in malls. At the same time, artists and musicians generate intense frequencies in the search for new aesthetic experiences and new ways of mobilizing bodies in rhythm. In Sonic Warfare, Steve Goodman explores these uses of acoustic force and how they affect populations. Traversing philosophy, science, fiction, aesthetics, and popular culture, he maps a (dis)continuum of vibrational force, encompassing police and military research into acoustic means of crowd control, the corporate deployment of sonic branding, and the intense sonic encounters of sound art and music culture. Goodman concludes with speculations on the not yet heard—the concept of unsound, which relates to both the peripheries of auditory perception and the unactualized nexus of rhythms and frequencies within audible bandwidths.

Government Reports Announcements & Index

Algorithm Design and Applications

Voice Attractiveness

Writing in Knowledge Societies

Astrophysics for Physicists

Photovoltaic and Solar Energy

The first part of the book explains the various analytical tools that simplify and accelerate decision making. Learn about tools that help you determine causes, evaluate choices, and forecast future events. For occasions when a group, rather than an individual, has to make a decision, you will also learn what tools can help you create group consensus. The second half of the book shows you how to apply analytical tools to different healthcare situations, including comparing clinician performance, determining the causes for medical errors, analyzing the costs of programs, and determining the market for new services. Many practical examples walk you step-by-step through common decision-making scenarios.

Well-balanced, carefully reasoned study covers such topics as Ptolemaic theory, work of Copernicus, Kepler, Newton, Eddington's work on stars, much more. Illustrated. References.

Evaluating the aromaticity of a molecular system and the influence of this concept on its properties is a crucial step in the development of novel aromatic systems. Modern computational methods can provide researchers with a high level of insight into such aromaticity, but identifying the most appropriate method for assessing a specific system can prove difficult. Aromaticity: Modern Computational Methods and Applications reviews the latest

state-of-the-art computational methods in this field and discusses their applicability for evaluating the aromaticity of a system. In addition to covering aromaticity for typical organic molecules, this volume also explores systems possessing transition metals in their structures, macrocycles and even transition structures. The influence of the aromaticity on the properties of these species (including the structure, magnetic properties and reactivity) is highlighted, along with potential applications in fields including materials science and medicinal chemistry. Finally, the controversial and fuzzy nature of aromaticity as a concept is discussed, providing the basis for an updated and more comprehensive definition of this concept. Drawing on the knowledge of an international team of experts, *Aromaticity: Modern Computational Methods and Applications* is a unique guide for anyone researching, studying or applying principles of aromaticity in their work, from computational and organic chemists to pharmaceutical and materials scientists. Reviews a range of computational methods to assess the aromatic nature of different compounds, helping readers select the most useful tool for the system they are studying Presents a complete guide to the key concepts and fundamental principles of aromaticity Provides guidance on identifying which variables should be modified to tune the properties of an aromatic system for different potential applications

Introduction to Astronomy & Cosmology is a modern undergraduate textbook, combining both the theory behind astronomy with the very latest developments. Written for science students, this book takes a carefully developed scientific approach to this dynamic subject. Every major concept is accompanied by a worked example with end of chapter problems to improve understanding Includes coverage of the very latest developments such as double pulsars and the dark galaxy. Beautifully illustrated in full colour throughout Supplementary web site with many additional full colour images, content, and latest developments.

Here, There, and Everywhere

Fluid Mechanics

The Palgrave Handbook of Critical Physical Geography

Excavations at Bestansur and Shimshara, Iraqi Kurdistan

A History of Electricity and Life

Principles and Practices

This second edition has a unique approach that provides a broad and wide introduction into the fascinating area of probability theory. It starts on a fast track with the treatment of probability theory and stochastic processes by providing short proofs. The last chapter is unique as it features a wide range of applications in other fields like Vlasov dynamics of fluids, statistics of circular data, singular continuous random variables, Diophantine equations, percolation theory, random Schrödinger operators, spectral graph theory, integral geometry, computer vision, and processes with high risk. Many of these areas are under active investigation and this volume is highly suited for ambitious undergraduate students, graduate students and researchers.

This handbook is recognition of the need to better integrate physical and human geography. It combines a collection of work and research within the new field of Critical Physical Geography, which gives critical attention to relations of social power with deep knowledge of a particular field of biophysical science. Critical Physical Geography research accords careful attention to biophysical landscapes and the power relations that have increasingly come to shape them, and to the politics of environmental science and the role of biophysical inquiry in promoting social and environmental justice. The Palgrave Handbook of Critical Physical Geography lays out the scope and guiding principles of Critical Physical Geography research. It presents a carefully selected set of empirical work, demonstrating the range and intellectual strength of existing integrative work in geography research. This handbook is the first of its kind to cover this emerging discipline and will be of significant interest to students and academics across the fields of geography, the environment and sustainability.

Since its first publication, Michael J. Mauboussin's popular guide to wise investing has been translated into eight languages and has been named best business book by BusinessWeek and best economics book by Strategy+Business. Now updated to reflect current research and expanded to include new chapters on investment philosophy, psychology, and strategy and science as they pertain to money management, this volume is more than ever the best chance to know more than the average investor. Offering invaluable tools to better understand the concepts of choice and risk, More Than You Know is a unique blend of practical advice and sound theory, sampling from a wide variety of sources and disciplines. Mauboussin builds on the ideas of visionaries, including Warren Buffett and E. O. Wilson, but also finds wisdom in a broad and deep range of fields, such as casino gambling, horse racing, psychology, and evolutionary biology. He analyzes the strategies of poker experts David Sklansky and Puggy Pearson and pinpoints parallels between mate selection in guppies and stock market booms. For this edition, Mauboussin includes fresh thoughts on human cognition, management assessment, game theory, the role of intuition, and the mechanisms driving the market's mood swings, and explains what these topics tell us about smart investing. More Than You Know is written with the professional investor in mind but extends far beyond the world of economics and finance. Mauboussin groups his essays into four parts-Investment Philosophy, Psychology of Investing, Innovation and Competitive Strategy, and Science and Complexity Theory-and he includes substantial references for further reading. A true eye-opener, More Than You Know shows how a multidisciplinary approach that pays close attention to process and the psychology of decision making offers the best chance for long-term financial

results.

The editors of WRITING IN KNOWLEDGE SOCIETIES provide a thoughtful, carefully constructed collection that addresses the vital roles rhetoric and writing play as knowledge-making practices in diverse knowledge-intensive settings. The essays in this book examine the multiple, subtle, yet consequential ways in which writing is epistemic, articulating the central role of writing in creating, shaping, sharing, and contesting knowledge in a range of human activities in workplaces, civic settings, and higher education.

Sound and Music Computing

IUTAM Symposium on Physicochemical and Electromechanical, Interactions in Porous Media

Molecular Epidemiology

Molecular and Cell Biology of Cancer

Studies on Sexy, Likable, and Charismatic Speakers

Modern Physics

This book addresses various aspects of acoustic–phonetic analysis, including voice quality and fundamental frequency, and the effects of speech fluency and non-native accents, by examining read speech, public speech, and conversations. Voice is a sexually dimorphic trait that can convey important biological and social information about the speaker, and empirical findings suggest that voice characteristics and preferences play an important role in both intra- and intersexual selection, such as competition and mating, and social evaluation. Discussing evaluation criteria like physical attractiveness, pleasantness, likability, and even persuasiveness and charisma, the book bridges the gap between social and biological views on voice attractiveness. It presents conceptual, methodological and empirical work applying methods such as passive listening tests, psychoacoustic rating experiments, and crowd-sourced and interactive scenarios and highlights the diversity not only of the methods used when studying voice attractiveness, but also of the domains investigated, such as politicians’ speech, experimental speed dating, speech synthesis, vocal pathology, and voice preferences in human interactions as well as in human–computer and human–robot interactions. By doing so, it identifies widespread and complementary approaches and establishes common ground for further research.

This textbook takes you on a journey to the basic concepts of cancer biology. It combines developmental, evolutionary and cell biology perspectives, to then wrap-up with an integrated clinical approach. The book starts with an introductory chapter, looking at cancer in a nut shell. The subsequent chapters are detailed and the idea of cancer as a mass of somatic cells undergoing a micro-evolutionary Darwinian process is explored. Further, the main Hanahan and Weinberg “Hallmarks of Cancer” are revisited. In most chapters, the fundamental experiments that led to key concepts, connecting basic biology and biomedicine are highlighted. In the book’s closing section all of these concepts are integrated in clinical studies, where molecular diagnosis as well as the various classical and modern therapeutic strategies are addressed. The book is written in an easy-to-read language, like a one-on-one conversation between the writer and the reader, without compromising the scientific accuracy. Therefore, this book is suited not only for advanced undergraduates and master students but also for patients or curious lay people looking for a further understanding of this shattering disease

This new volume, number 123, of *Methods in Cell Biology* looks at methods for quantitative imaging in cell biology. It covers both theoretical and practical aspects of using optical fluorescence microscopy and image analysis techniques for quantitative applications. The introductory chapters cover fundamental concepts and techniques important for obtaining accurate and precise quantitative data from imaging systems. These chapters address how choice of microscope, fluorophores, and digital detector impact the quality of quantitative data, and include step-by-step protocols for capturing and analyzing quantitative images. Common quantitative applications, including co-localization, ratiometric imaging, and counting molecules, are covered in detail. Practical chapters cover topics critical to getting the most out of your imaging system, from microscope maintenance to creating standardized samples for measuring resolution. Later chapters cover recent advances in quantitative imaging techniques, including super-resolution and light sheet microscopy. With cutting-edge material, this comprehensive collection is intended to guide researchers for years to come. Covers sections on model systems and functional studies, imaging-based approaches and emerging studies Chapters are written by experts in the field Cutting-edge material

Explores interaction between music and mathematics including harmony, symmetry, digital music and perception of sound.

Sonic Warfare

More Than You Know

A Short Course for Physicists

Ocean Noise and Marine Mammals

The Sun, the Earth, and Near-earth Space

Modern Computational Methods and Applications

Nanostructured Materials for Next-Generation Energy Storage and Conversion: Photovoltaic and Solar Energy, is volume 4 of a 4-volume series on sustainable energy.

Photovoltaic and Solar Energy while being a comprehensive reference work, is written with minimal jargon related to various aspects of solar energy and energy policies. It is authored by leading experts in the field, and lays out theory, practice, and simulation studies related to solar energy and allied applications including policy, economic and technological challenges. Topics covered include: introduction to solar energy, fundamentals of solar radiation, heat transfer, thermal collection and conversion, solar economy, heating, cooling, dehumidification systems, power and process heat, solar power conversion, policy and applications pertinent to solar energy as viable alternatives to fossil fuels. The aim of the book is to present all the information necessary for the design and analysis of solar energy systems for engineers, material scientists, economics, policy analysts, graduate students, senior undergraduates, solar energy practitioner, as well as policy or lawmakers in the field of energy policy, international energy trade, and libraries which

house technical handbooks related to energy, energy policy and applications.

Planetary atmospheres is a relatively new, interdisciplinary subject that incorporates various areas of the physical and chemical sciences, including geophysics, geophysical fluid dynamics, atmospheric science, astronomy, and astrophysics. Providing a much-needed resource for this cross-disciplinary field, *An Introduction to Planetary Atmospheres* presents current knowledge on atmospheres and the fundamental mechanisms operating on them. The author treats the topics in a comparative manner among the different solar system bodies—what is known as comparative planetology. Based on an established course, this comprehensive text covers a panorama of solar system bodies and their relevant general properties. It explores the origin and evolution of atmospheres, along with their chemical composition and thermal structure. It also describes cloud formation and properties, mechanisms in thin and upper atmospheres, and meteorology and dynamics. Each chapter focuses on these atmospheric topics in the way classically done for the Earth's atmosphere and summarizes the most important aspects in the field. The study of planetary atmospheres is fundamental to understanding the origin of the solar system, the formation mechanisms of planets and satellites, and the day-to-day behavior and evolution of Earth's atmosphere. With many interesting real-world examples, this book offers a unified vision of the chemical and physical processes occurring in planetary atmospheres. Ancillaries are available at www.ajax.ehu.es/planetary_atmospheres/ Richly illustrated with full-color images, this book is a comprehensive, up-to-date description of the planets, their moons, and recent exoplanet discoveries. This second edition of a now classic reference is brought up to date with fascinating new discoveries from 12 recent Solar System missions. Examples include water on the Moon, volcanism on Mercury's previously unseen half, vast buried glaciers on Mars, geysers on Saturn's moon Enceladus, lakes of hydrocarbons on Titan, encounter with asteroid Itokawa, and sample return from comet Wild 2. The book is further enhanced by hundreds of striking new images of the planets and moons. Written at an introductory level appropriate for undergraduate and high-school students, it provides fresh insights that appeal to anyone with an interest in planetary science. A website hosted by the author contains all the images in the book with an overview of their importance. A link to this can be found at www.cambridge.org/solarsystem.

Designed for teaching astrophysics to physics students at advanced undergraduate or beginning graduate level, this textbook also provides an overview of astrophysics for astrophysics graduate students, before they delve into more specialized volumes. Assuming background knowledge at the level of a physics major, the textbook develops astrophysics from the basics without requiring any previous study in astronomy or astrophysics. Physical concepts, mathematical derivations and observational data are combined in a balanced way to provide a unified treatment. Topics such as general relativity and plasma physics, which are not usually covered in physics courses but used extensively in astrophysics, are developed from first principles. While the emphasis is on developing the fundamentals thoroughly, recent important discoveries are highlighted at every stage.

Ship Design

Music: A Mathematical Offering

Probability Theory and Stochastic Processes with Applications (Second Edition)

Creativity in the Digital Age

Technoscientific Research

Toxicological Profile for Polycyclic Aromatic Hydrocarbons

?? Giant molecules are important in our everyday life. But, as pointed out by the authors, they are also associated with a culture. What Bach did with the harpsichord, Kuhn and Flory did with polymers. We owe a lot of thanks to those who now make this music accessible ??Pierre-Gilles de Gennes Nobel Prize laureate in Physics (Foreword for the 1st Edition, March 1996) This book describes the basic facts, concepts and ideas of polymer physics in simple, yet scientifically accurate, terms. In both scientific and historic contexts, the book shows how the subject of polymers is fascinating, as it is behind most of the wonders of living cell machinery as well as most of the newly developed materials. No mathematics is used in the book beyond modest high school algebra and a bit of freshman calculus, yet very sophisticated concepts are introduced and explained, ranging from scaling and reptations to protein folding and evolution. The new edition includes an extended section on polymer preparation methods, discusses knots formed by molecular filaments, and presents new and updated materials on such contemporary topics as single molecule experiments with DNA or polymer properties of proteins and their roles in biological evolution.

The multidisciplinary field of fluid mechanics is one of the most actively developing fields of physics, mathematics and engineering. In this book, the fundamental ideas of fluid mechanics are presented from a physics perspective. Using examples taken from everyday life, from hydraulic jumps in a kitchen sink to Kelvin–Helmholtz instabilities in clouds, the book provides readers with a better understanding of the world around them. It teaches the art of fluid-mechanical estimates and shows how the ideas and methods developed to study the mechanics of fluids are used to analyze other systems with many degrees of freedom in statistical physics and field theory. Aimed at undergraduate and graduate students, the book assumes no prior knowledge of the subject and only a basic understanding of vector calculus and analysis. It contains 32 exercises of varying difficulties, from simple estimates to elaborate calculations, with detailed solutions to help readers understand fluid mechanics.

" ... Concise explanations and descriptions - easily read and readily understood - of what we know of the chain of events and processes that connect the Sun to the Earth, with special emphasis on space weather and Sun-Climate."--Dear Reader.

Electricity has shaped the modern world. But how has it affected our health and environment? Over the last 220 years, society has evolved a universal belief that electricity is 'safe' for humanity and the planet. Scientist and journalist Arthur Firstenberg disrupts this conviction by telling the story of electricity in a way it has never been told before--from an environmental point of view--by detailing the effects that this fundamental societal building block has had on our health and our planet. In *The Invisible Rainbow*, Firstenberg traces the history of electricity from the early eighteenth century to the present, making a compelling case that many environmental problems, as well as the major diseases of industrialized civilization--heart disease, diabetes, and cancer--are related to electrical pollution.

The Invisible Rainbow
How the Mars Rover Performs Its Job
A History of Astronomy
Draft
A Phylogenetic Approach
Molecular Evolution

Traces the development of physics from 2000 years ago to the experimental theories of the 20th century.

This book describes the most complex machine ever sent to another planet: Curiosity. It is a one-ton robot with two brains, seventeen cameras, six wheels, nuclear power, and a laser beam on its head. No one human understands how all of its systems and instruments work. This essential reference to the Curiosity mission explains the engineering behind every system on the rover, from its rocket-powered jetpack to its radioisotope thermoelectric generator to its fiendishly complex sample handling system. Its lavishly illustrated text explains how all the instruments work -- its cameras, spectrometers, sample-cooking oven, and weather station -- and describes the instruments' abilities and limitations. It tells you how the systems have functioned on Mars, and how scientists and engineers have worked around problems developed on a faraway planet: holey wheels and broken focus lasers. And it explains the grueling mission operations schedule that keeps the rover working day in and day out.

In the last decades, new experimental and numerical techniques have taken many advanced features of porous media mechanics down to practical engineering applications. This happened in areas that sometimes were not even suspected to be open to engineering ideas at all. The challenge that often faces engineers in the field of geomechanics, biomechanics, rheology and materials science is the translation of ideas existing in one field to solutions in the other. The purpose of the IUTAM symposium from which this proceedings volume has been compiled was to dive deep into the mechanics of those porous media that involve mechanics and chemistry, mechanics and electromagnetism, mechanics and thermal fluctuations of mechanics and biology. The different sections have purposely not been formed according to field interest, but on the basis of the physics involved.

From the content: Introduction Mathematical modelling Measurement Scientific explanation Context of discovery Context of justification Uncertainty of scientific knowledge Morality and moral philosophy System of values associated with science General principles of moral decision-making Research ethics Methodological and ethical issues related to experimentation Methodological and ethical issues to research information Methodological and ethical issues related to legal protection of intellectual property

An Introduction to Planetary Atmospheres
Finding Financial Wisdom in Unconventional Places (Updated and Expanded)
The Cambridge Guide to the Solar System
Aromaticity
Methodologies of Preliminary Design
Fundamentals of Wireless Communication

Government Reports Announcements & Index Modern Physics Worth Pub

Essential reading for any Earth scientist, this classic textbook has been providing advanced undergraduate and graduate students with the fundamentals needed to develop a quantitative understanding of the physical processes of the solid earth for over thirty years. This third edition has two completely new chapters covering numerical modelling and geophysical MATLAB applications, and the text is now supported by a suite of online MATLAB codes that will enable students to grasp the practical aspects of computational modelling. The book has been brought fully up to date with the inclusion of new material on planetary geophysics and other cutting edge topics. Exercises within the text allow students to put the theory into practice as they progress through each chapter and carefully selected further reading sections guide and encourage them to delve deeper into topics of interest. Answers to problems available within the book and also online, for self-testing, complete the textbook package.

This book deals with ship design and in particular with methodologies of the preliminary design of ships. The book is complemented by a basic bibliography and five appendices with useful updated charts for the selection of the main dimensions and other basic characteristics of different types of ships (Appendix A), the determination of hull form from the data of systematic hull form series (Appendix B), the detailed description of the relational method for the preliminary estimation of ship weights (Appendix C), a brief review of the historical evolution of shipbuilding science and technology from the prehistoric era to date (Appendix D) and finally a historical review of regulatory developments of ship's damage stability to date (Appendix E). The book can be used as textbook for ship design courses or as additional reading for university or college students of naval architecture courses and related disciplines; it may also serve as a reference book for naval architects, practicing engineers of related disciplines and ship officers, who like to enter the ship design field systematically or to use practical methodologies for the estimation of ship's main dimensions and of other ship main properties and elements of ship design.

This book is a printed edition of the Special Issue "Sound and Music Computing" that was published in Applied Sciences

Introduction to Astronomy and Cosmology
The Design and Engineering of Curiosity
Methodological and Ethical Aspects

The Story of Physics

The Early Neolithic of the Eastern Fertile Crescent

The British National Bibliography

Introducing a NEW addition to our growing library of computer science titles, Algorithm Design and Applications, by Michael T. Goodrich & Roberto Tamassia! Algorithms is a course required for all computer science majors, with a strong focus on theoretical topics. Students enter the course after gaining hands-on experience with computers, and are expected to learn how algorithms can be applied to a variety of contexts. This new book integrates application with theory. Goodrich & Tamassia believe that the best way to teach algorithmic topics is to present them in a context that is motivated from applications to uses in society, computer games, computing industry, science, engineering, and the internet. The text teaches students about designing and using algorithms, illustrating connections between topics being taught and their potential applications, increasing engagement.

For the intermediate-level course, the Fifth Edition of this widely used text takes modern physics textbooks to a higher level. With a flexible approach to accommodate the various ways of teaching the course (both one- and two-term tracks are easily covered), the authors recognize the audience and its need for updated coverage, mathematical rigor, and features to build and support student understanding. Continued are the superb explanatory style, the up-to-date topical coverage, and the Web enhancements that gained earlier editions worldwide recognition. Enhancements include a streamlined approach to nuclear physics, thoroughly revised and updated coverage on particle physics and astrophysics, and a review of the essential Classical Concepts important to students studying Modern Physics.

For the 119 species of marine mammals, as well as for some other aquatic animals, sound is the primary means of learning about the environment and of communicating, navigating, and foraging. The possibility that human-generated noise could harm marine mammals or significantly interfere with their normal activities is an issue of increasing concern. Noise and its potential impacts have been regulated since the passage of the Marine Mammal Protection Act of 1972. Public awareness of the issue escalated in 1990s when researchers began using high-intensity sound to measure ocean climate changes. More recently, the stranding of beaked whales in proximity to Navy sonar use has again put the issue in the spotlight. Ocean Noise and Marine Mammals reviews sources of noise in the ocean environment, what is known of the responses of marine mammals to acoustic disturbance, and what models exist for describing ocean noise and marine mammal responses. Recommendations are made for future data gathering efforts, studies of marine mammal behavior and physiology, and modeling efforts necessary to determine what the long- and short-term impacts of ocean noise on marine mammals.

This edited book discusses the exciting field of Digital Creativity. Through exploring the current state of the creative industries, the authors show how technologies are reshaping our creative processes and how they are affecting the innovative creation of new products. Readers will discover how creative production processes are dominated by digital data transmission which makes the connection between people, ideas and creative processes easy to achieve within collaborative and co-creative environments. Since we rely on our senses to understand our world, perhaps of more significance is that technologies through 3D printing are returning from the digital to the physical world. Written by an interdisciplinary group of researchers this thought provoking book will appeal to academics and students from a wide range of backgrounds working or interested in the technologies that are shaping our experiences of the future.

Geodynamics

Quantitative Imaging in Cell Biology

A Guide to the Sun-earth System

Nanostructured Materials for Next-Generation Energy Storage and Conversion

Principles and Methods for Accelerated Catalyst Design and Testing

When Cells Break the Rules and Hijack Their Own Planet

This textbook takes a unified view of the fundamentals of wireless communication and explains cutting-edge concepts in a simple and intuitive way. An abundant supply of exercises make it ideal for graduate courses in electrical and computer engineering and it will also be of great interest to practising engineers.

High throughput experimentation has met great success in drug design but it has, so far, been scarcely used in the field of catalysis. We present in this book the outcome of a NATO ASI meeting that was held in Vilamoura, Portugal, between July 15 and 28, 2001, with the objective of delineating and consolidating the principles and methods underpinning accelerated catalyst design, evaluation, and development. There is a need to make the underlying principles of this new methodology more widely understood and to make it available in a coherent and integrated format. The latter objective is particularly important to the young scientists who will constitute the new catalysis researchers generation. Indeed, this field which is at the frontier of fundamental science and may be a renaissance for catalysis, is one which is much more complex than classical catalysis itself. It implies a close collaboration between scientists from many disciplines (chemistry, physics, chemical and mechanical engineering, automation, robotics, and scientific computing in general). In addition, this emerging area of science is also of paramount industrial importance, as progress in this area would collapse the time necessary to discover new catalysts or improve existing

ones.

Giant Molecules

Decision Analysis for Healthcare Managers

Sound, Affect, and the Ecology of Fear