

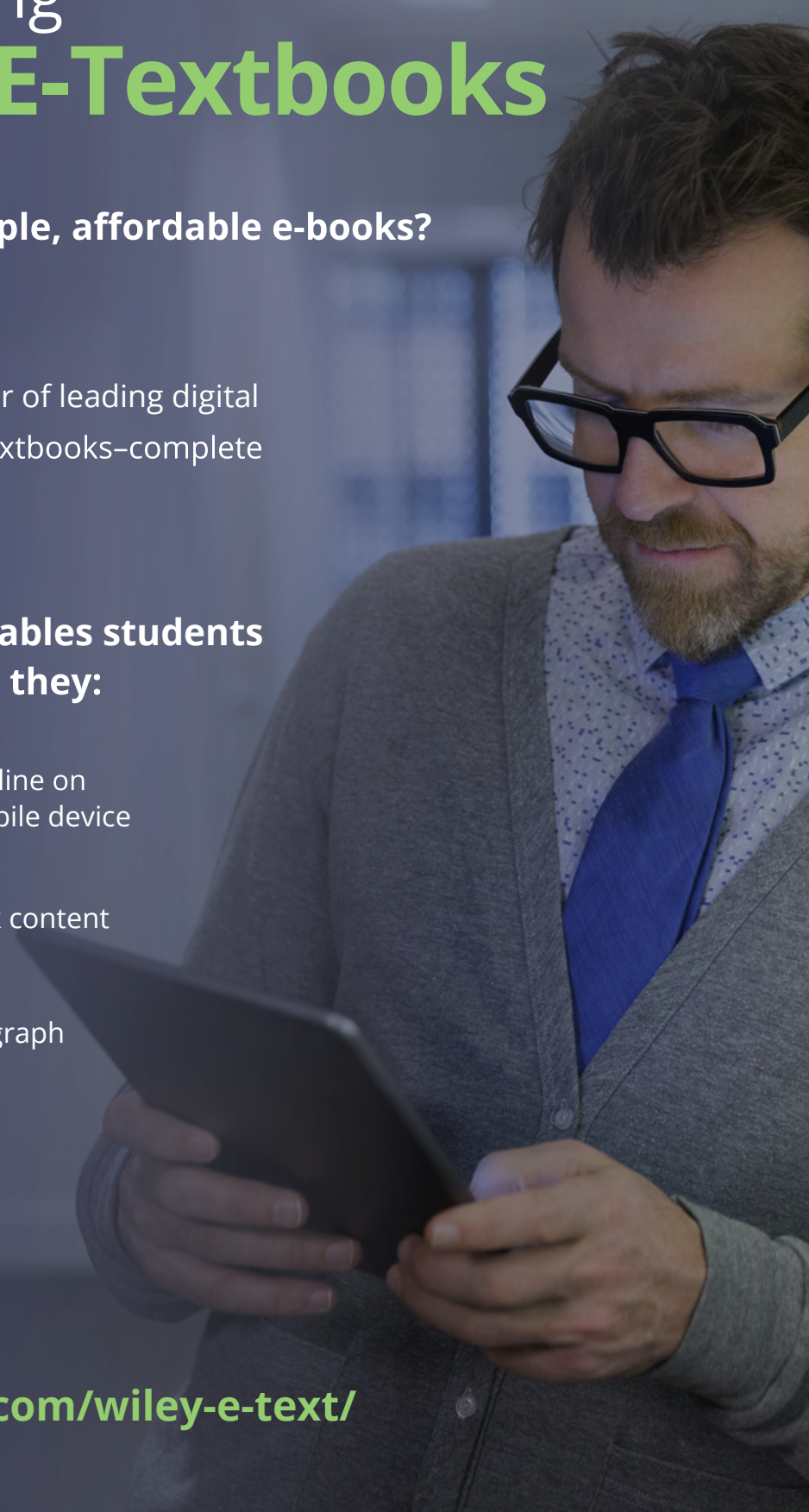


Life & Earth Sciences

September to December 2020

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Lead Title



Textbook

All prices are correct as at press time but are subject to change without prior notice.

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Fieldwork Ready

Fieldwork Ready

An Introductory Guide to Field Research for Agriculture, Environment and Soil Scientists

Sara Vero

This book is unique in addressing the less-discussed aspects of fieldwork including 'soft skills' such as communication, planning and logistics as well as basic technical skills used in environmental research. While training and standard operating procedures are available for the latter category, little support is given to students and early career researchers regarding the former, despite their importance. This book attempts to address this knowledge gap and further, could be used as a support to graduate and undergraduate field courses and modules.

Reference • 9780891183754 • Nov 2020 • Paper • TBA • US\$32.95 • Imprint: ACSESS

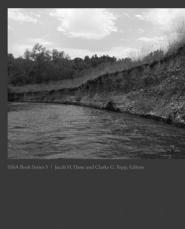
Guidelines for Analysis and Description of Regolith Thin Sections

Guidelines for Analysis and Description of Regolith Thin Sections

2nd Edition

Georges Stoops

George Stoops, a world expert on thin section analysis, presents the most up-to-date system of analysis and description of soil and regolith materials as seen in thin sections. Scientists and students from archaeology to pedology will appreciate the introduction of micromorphology, the thorough treatment of all features that may be encountered, and especially the convenient system to key out those features. Bulleted lists and set-off definitions make this book work well in class and as a lab reference.

Reference • 9780891189756 • Aug 2020 • Paper • TBA • US\$32.95 • Imprint: ACSESS •
Previous ed: 9780891188421 (Soil Science Society of America)Methods of Soil Analysis
Part 4—Physical Methods**Methods of Soil Analysis, Part 4**

Physical Methods

Jacob Dane & Clarke G. Topp

The best single reference for both the theory and practice of soil physical measurements, Methods, Part 4 adopts a more hierarchical approach to allow readers to easily find their specific topic or measurement of interest. As such it is divided into eight main chapters on soil sampling and statistics, the solid, solution, and gas phases, soil heat, solute transport, multi-fluid flow, and erosion. More than 100 world experts contribute detailed sections.

Reference • 9780891188414 • May 2020 • Cloth • 1744pp • US\$99.95 • Imprint: ACSESS

Jack Harlan's
Crops and Man**Jack Harlan's Crops and Man**

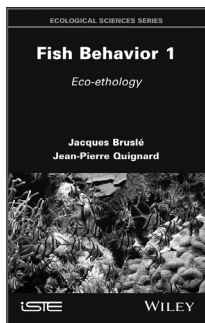
3rd Edition

H. Thomas Stalker, Marilyn Warburton & Jack Harlan

The proposed third edition of Crops and Man will maintain the structure of the previous works and maintain most of Dr. Harlan's user friendly text, but will also add recently discovered information, correct errors in previous volumes where needed, fill in gaps in utilization of wild species and landraces, explore mechanisms of transforming a wild plant into a domesticate, expand the section on germplasm preservation, and add information about multiple crops in the Near East and Africa, as was done for the Far East and Americas in the second edition. Importantly, the third edition will reintroduce the subject of crop plant evolution to new students of crop science.

Reference • 9780891186335 • Nov 2020 • Cloth • 200pp • US\$69.95 • Imprint: ACSESS •
Previous ed: 9780891181071 (American Society of Agronomy-Crop Science Society)

FISH SCIENCE



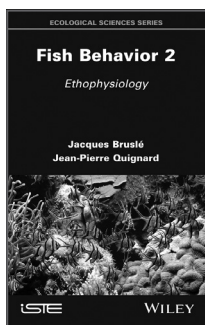
Fish Behavior 1

Eco-ethology

Jacques Bruslé & Jean-Pierre Quignard

Advances in underwater exploration, in situ observation of fish populations, as well as the development of cutting-edge technologies, provide modern insights into behaviors and strategies of fish, whose cognitive abilities have long been underestimated and undervalued. *Fish Behavior 1* presents current knowledge about fish biology, ecology and ethology. In light of the most recent scientific work, this book examines the habitats exploited by fish, as well as the strategies and tactics they have adopted regarding the occupation of available territories. It also addresses communication issues between individuals during social interactions.

Reference • 9781786305367 • May 2020 • Cloth • 278pp • US\$144.95 • Imprint: Wiley-ISTE



Fish Behavior 2

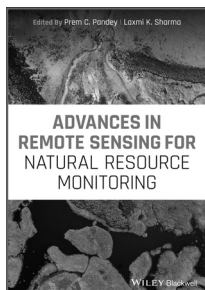
Ethophysiology

Jacques Bruslé & Jean-Pierre Quignard

Fish Behavior 2 presents current knowledge about fish biology, ecology and ethology. In light of the most recent scientific work, this book examines topics such as their reproductive behavior and the expression of their personalities. It also addresses issues associated with neurophysiological conditioning of behaviors, in relation to the structural and functional complexity of their brains. This book is intended for researchers, teachers, masters and doctoral students in biology and biogeography, engineers and technicians responsible for the development and protection of natural environments and public aquariums, in addition to aquaculturists, fishermen, environmentalists and ecologists.

Reference • 9781786305374 • May 2020 • Cloth • 242pp • US\$134.95 • Imprint: Wiley-ISTE

GEOLOGY & GEOPHYSICS



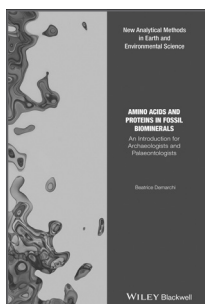
Advances in Remote Sensing for Natural Resource Monitoring

Prem Pandey & Laxmi K. Sharma

Advances in Remote Sensing for Natural Resources Monitoring provides a detailed overview of the potential applications of advanced satellite data in natural resource monitoring. The book determines how environmental and - ecological knowledge and satellite-based information can be effectively combined to address a wide array of current natural resource management needs. Each chapter covers different aspects of remote sensing approach to monitor the natural resources effectively, to provide a platform for decision and policy.

This is the first volume of the book series *Advances in Remote Sensing for Earth Observation*.

Reference • 9781119615972 • Dec 2020 • Cloth • TBA • US\$195.00



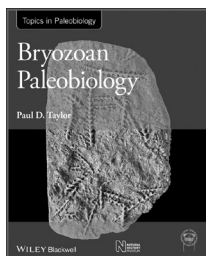
Amino Acids and Proteins in Fossil Biominerals

An Introduction for Archaeologists and Palaeontologists

Beatrice Demarchi

Amino Acids and Proteins in Fossil Biominerals is an authoritative guide to the patterns of survival and degradation of ancient biomolecules in the fossil record. The author brings together new research in biomineralization and ancient proteins to describe mechanisms of protein diagenesis. The book draws on the author's experiences as well as current information from three research fields: geochemistry, archaeology and Quaternary sciences. The author examines the history of the study of ancient proteins, from the dating of Quaternary biominerals to the present advances in shotgun proteomics, and discusses their applications across archaeology, geology and evolutionary biology.

Reference • 9781119089445 • Jul 2020 • Cloth • 144pp • US\$99.95

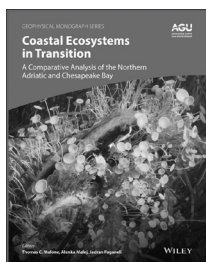


Bryozoan Paleobiology

Paul Taylor

Bryozoan Paleobiology brings together the scattered research on living and fossil bryozoans in broad and profusely illustrated overview that will help students and researchers alike in understanding this fascinating group of animals. Beginning with the basics of bryozoan morphology, ecology and classification, the book progresses from the smallest scale of skeletal ultrastructure, to the largest of bryozoan distributions in time and space. On the way, topics such as the origin of zooidal polymorphism and macroevolutionary trends in colony forms are covered. Case studies illuminate these topics, and areas in which further research is particularly required are highlighted.

Reference • 9781118455005 • Jul 2020 • Paper • 336pp • US\$89.99



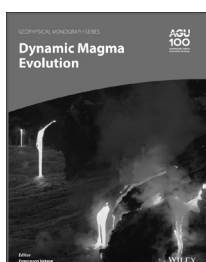
Coastal Ecosystems in Transition

A Comparative Analysis of the Northern Adriatic and Chesapeake Bay

Thomas Malone, Alenka Malej & Jadran Faganeli

Explores how two coastal ecosystems are responding to the pressures of human expansion. *Coastal Ecosystems in Transition: A Comparative Analysis of the Northern Adriatic and Chesapeake Bay* presents an update of a study published two decades ago. Revisiting these two ecosystems provides an opportunity to assess changing anthropogenic pressures in the context of global climate change. The new insights can be used to inform ecosystem-based approaches to sustainable development of coastal environments.

Reference • 9781119543589 • Dec 2020 • Cloth • 260pp • US\$TBA • Imprint: American Geophysical Union

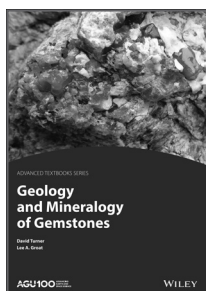


Dynamic Magma Evolution

Francesco Vetere

Understanding the magmatic processes responsible for the chemical and textural signatures of volcanic products and igneous rocks is crucial for monitoring, forecasting, and mitigating the impacts of volcanic activity. *Dynamic Magma Evolution* is a compilation of recent geochemical, petrological, physical, and thermodynamic studies. It combines field research, experimental results, theoretical approaches, unconventional and novel techniques, and computational modeling to present the latest developments in the field.

Reference • 9781119521136 • Sep 2020 • Cloth • 332pp • US\$TBA • Imprint: American Geophysical Union

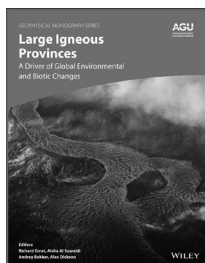


Geology and Mineralogy of Gemstones

David Turner & Lee A. Groat

The proposed book is divided into two parts: (1) content focused on developing base mineralogical and geological knowledge and (2) the details of the gemstones themselves and their geological settings. Lower level learners can focus on introductory material (and be exposed to greater details) while upper level learners can jump into the greater details of subsequent chapters (and also be able to fall back on more basic knowledge). Mid-level or keen lower level learners should be able to make use of the entire book to scaffold their learning. "Softer" topics, such as the chronology of the famous Cullinan diamonds, will be integrated as 'information boxes' so as to keep the flow of the more technical material but allow interesting societal facts to be included in the book. After all, the reason that many people are keenly interested in gem materials is their societal value and significance across civilizations and through time.

Reference • 9781119299851 • Nov 2020 • Paper • 286pp • US\$TBA • Imprint: American Geophysical Union



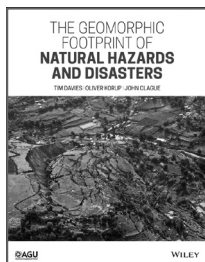
Large Igneous Provinces

A Driver of Global Environmental and Biotic Changes

Richard Ernst, Aisha Al Suwaidi, Andrey Bekker & Alex Dickson

An emerging consensus suggests that Large Igneous Provinces (LIPs) and Silicic LIPs (SLIPs) are a significant driver of dramatic global environmental and biological changes, including mass extinctions. Environmental changes caused by LIPs and SLIPs include rapid global warming, global cooling (Snowball Earth), oceanic anoxia events, mercury poisoning, atmospheric and oceanic acidification, and sea level changes. Continued research to characterize the effects of these extremely large and typically short duration igneous events on atmospheric and oceanic chemistry through Earth history can provide lessons for understanding and mitigating modern climate change. *Large Igneous Provinces* describes the interactions between the effects of LIPs and other drivers of climatic change, the limits of the LIP effect, and the atmospheric and oceanic consequences of LIPs in significant environmental events.

Reference • 9781119507451 • Sep 2020 • Cloth • 572pp • US\$TBA • Imprint: American Geophysical Union



The Geomorphic Footprint of Natural Hazards and Disasters

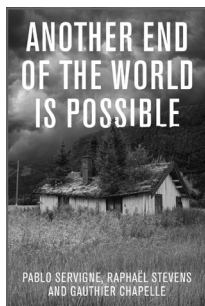
Tim Davies, Oliver Korup & John Clague

The brief table of contents: Natural Disasters and Sustainable Development in Dynamic Landscapes • Defining Natural Hazards, Risks, and Disasters • Natural Hazards and Disasters through The Geomorphic Lens • Geomorphology Informs Natural Hazard Assessment • Tools for Predicting Natural Hazards • Earthquake Hazards • Volcanic Hazards • Landslides and Slope Instability • Tsunami Hazards • Storm Hazards • Flood Hazards • Drought Hazards • Wildfires • Snow and Ice Hazards • Sea-Level Change and Coastal Hazards • How Natural are Natural Hazards? • Feedbacks with the Biosphere • The Scope of Geomorphology in Dealing with Natural Risks and Disasters • Conclusions

Reference • 9781119990314 • Nov 2020 • Paper • 352pp • US\$51.95

Reference • 9781119990321 • Nov 2020 • Cloth • 352pp • US\$123.95

ENVIRONMENTAL ECONOMICS & POLITICS



Another End of the World is Possible

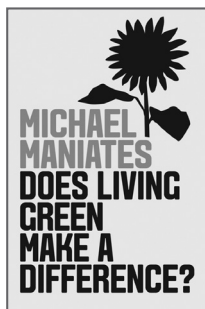
Living the Collapse (and Not Merely Surviving It)

Pablo Servigne, Raphael Stevens & Gauthier Chapelle

The critical situation in which our planet finds itself is no longer in doubt. Some things are already collapsing while others are beginning to do so, increasing the possibility of a global catastrophe that would mean the end of the world as we know it. In this second book, following *How Everything Can Collapse*, the authors show that a change of course that opens up new horizons necessarily requires an inner journey and a radical rethinking of our vision of the world, one that might enable us to remain standing during the coming storm, to develop a new awareness of ourselves and of the world and to imagine new ways of living in it. Perhaps then it will be possible to regenerate life from the ruins, creating new alliances in differing directions – with ourselves and our inner nature, between humans, with other living beings and with the earth on which we dwell.

Reference • 9781509544653 • Oct 2020 • Cloth • 250pp • US\$64.95 • Imprint: Polity

Trade • 9781509544660 • Oct 2020 • Paper • 250pp • US\$19.95 • Imprint: Polity



Does Living Green Make a Difference?

Michael Maniates

Massive environmental problems threaten our planet and evoke within us a need to act – a need to do something, no matter how small, to slow the damage. But what kind of action? Businesses, governments, and environmental groups tell us that buying environmentally friendly products while living more lightly on the planet is a winning strategy. If enough of us make these changes to our lifestyles, governments and corporations will follow suit. Environmental solutions will emerge and the planet will prosper. Michael Maniates believes that individuals can and must stop environmental destruction. But not by living green. The mantra of “buy green, live lean, save the planet” is a con: it fosters pernicious assumptions about social change, separates individuals from their real power in the world, and fuels damaging consumption. It’s high time to find more rewarding and promising avenues for saving the planet. This book shows us how.

Reference • 9781509527465 • Aug 2020 • Cloth • 154pp • US\$45.00 • Imprint: Polity

Reference • 9781509527472 • Aug 2020 • Paper • 154pp • US\$12.95 • Imprint: Polity

MAKING CLIMATE POLICY WORK

DANNY CULLENWARD
DAVID G. VICTOR

Making Climate Policy Work

Danny Cullenward & David G. Victor

For decades the world's governments have struggled to move from talk to action on climate. Many now hope that growing public concern will lead to greater policy ambition, but progress depends on sound strategy. Yet the most widely promoted climate policy—the use of market-based programs to reduce climate pollution—hasn't been working and isn't ready to scale. Danny Cullenward and David Victor show why the elegant theory of markets has failed to have much impact in practice. The reasons, they argue, are deeply rooted in the politics of creating and maintaining effective markets—forces that have caused low prices and led to few climate benefits in nearly every program to date. These problems are structural and won't disappear with increasing demand for climate solutions. Confronting them requires counterintuitive reforms, but even reformed markets are unlikely to drive the scale of change needed to stabilize the climate. Facing that reality, Cullenward and Victor argue, requires relying more heavily on regulation and industrial policy—strategies that ultimately turn on strengthened government capacities to deliver the benefits markets promise, but rarely deliver.

Reference • 9781509541799 • Oct 2020 • Cloth • 256pp • US\$64.95 • Imprint: Polity
Trade • 9781509541805 • Oct 2020 • Paper • 256pp • US\$22.95 • Imprint: Polity

The Anthropocene

A Multidisciplinary Approach

Julia Adeney Thomas, Mark Williams & Jan Zalasiewicz

Humans rank with the powerful forces of nature transforming Earth. Since the mid-20th century, population growth, industrialization, and globalization have had such deep and wide-ranging impacts that our planet no longer functions as it did during the previous eleven millennia. So distinctive is this collective human intervention that a new geological interval has been proposed; it is called the Anthropocene. *The Anthropocene* is intriguing scientifically, fascinating intellectually, and deeply disturbing politically, socially, economically, and ethically. We must learn how to co-exist sustainably with the rest of nature in what is emerging as a new planetary state. To do so, we must first understand what “Anthropocene” means in all its dimensions. This book adopts a multidisciplinary approach, starting with an exploration of the Anthropocene as a geological concept: ranging across the physical changes to the landscape, to the rapidly heating climate, to a biosphere undergoing transformation. And what of the “anthropos” in the Anthropocene? While geoscience does not normally address political and ethical issues of justice and equity, or economics and culture, Anthropocene studies in the humanities and social sciences investigate the complexities of the human activity driving global change.

Reference • 9781509534593 • Sep 2020 • Cloth • 288pp • US\$69.95 • Imprint: Polity
Reference • 9781509534609 • Sep 2020 • Paper • 288pp • US\$26.95 • Imprint: Polity

ENVIRONMENTAL MANAGEMENT, POLICY & PLANNING

Environmental Policy

An Economic Perspective

Thomas Walker, Sherif Goubran & Northrop Sprung-Much

Table of contents: An Introduction to the Current Landscape: Environmental policy and the Economy • Responses to Climate Change Worldwide: Individual Preferences and Policy Actions around the World • Legislation or Economic Instruments for a Successful Environmental Policy? Reflections after “Dieselgate” • Environmental Legislation and Small-and-Medium-Sized Enterprises (SMEs): A Literature Review • Bulk Water Pricing Policies and Strategies for Sustainable Water Management – the Case of Ontario, Canada • The Role of Water Pricing Policies in Steering Urban Development: The Case of the Bogota Region • Effective Environmental Protection and Regulatory Quality: A National Case Study of China • The EU Legal and Regulatory Framework for Measuring Damage Risks to the Biodiversity of the Marine Environment • Redefining Nature and Wilderness through Private Wildlife Ranching: An Economic Perspective of Environmental Policy in South(ern) Africa • Climate Change Regulations and Accounting Practices: Optimization for Emission-Intensive Publicly Traded Firms • The Economic Aspects of the Adoption of Renewable Energy Policies in Developing Countries: An Overview of the Brazilian Wind Power Sector • Ontario's Energy Transition: A Successful Case of a Green Jobs Strategy? • Ethical and Sustainable Investing and the Need for Carbon-Neutrality • Building Sustainable Communities through Market Based Instruments • Climate Justice in Food Security: Experience from Climate Finance in Bangladesh • A Survey of UK-Based Ethical and Sustainable Fund Managers' Investment Processes Addressing Plastics in the Environment.

Reference • 9781119402596 • Aug 2020 • Cloth • 352pp • US\$125.00

ENVIRONMENTAL SCIENCE

Introduction to Sustainability

2nd Edition

Robert Brinkmann

Introduction to Sustainability reviews all the major themes in the cutting-edge field of sustainability. The book is suitable for introductory interdisciplinary courses on sustainability, as well as those in the fields of geography, geology, sociology, planning, political science, and anthropology. Fully revised and updated, this second edition includes new material on the most recent developments in the field of sustainability; environmental sustainability issues like water, food, and energy; social sustainability themes like environmental justice and transportation; and economic sustainability topics like green businesses and economic development. The book concludes with a chapter on sustainability issues in college and universities. Brinkmann intersperses many fascinating case studies and text boxes that encourage students to deeply explore the material.

Reference • 9781119675464 • Dec 2020 • Paper • 352pp • US\$70.00 • Previous ed: 9781118487259

Soil Microbiology

Soil Microbiology

3rd Edition

Robert Tate

The environmentally oriented specialties of microbiology are in the midst of a major paradigm shift from a focus on single or a few key microbial species to consideration of the entirety of the microbial community and its interactions. This fully revised and updated edition focuses on the importance of soil microbial communities to sustainability of terrestrial ecosystems and solutions to global problems. Basic principles are covered, and details of the finer points of processes and their implications have been updated. This is a one-of-a-kind reference for advanced students and professionals.

Reference • 9780470311103 • Sep 2020 • Cloth • 592pp • US\$129.95 • Previous ed: 9780471317913

GENERAL & INTRODUCTORY ENVIRONMENTAL STUDIES

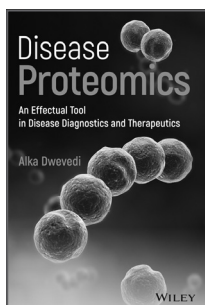
**Sustainability***Maurie J. Cohen*

In this clear-eyed book, Maurie Cohen introduces students to the concept of sustainability, tracing its history and application from local land-use practices, construction techniques and reorientation of business models to national and global institutions seeking to foster sustainable practices. Examining sustainable development in scientific, technological, social and political terms, he shows that it remains an elusive concept and evidence of its unambiguous achievements can be difficult to ascertain. Moreover, developed and developing countries have formulated divergent agendas to engage the notion of sustainability, further complicating its application and progress across the world.

Reference • 9781509540310 • Oct 2020 • Cloth • 200pp • US\$69.95 • Imprint: Polity

Reference • 9781509540327 • Oct 2020 • Paper • 200pp • US\$24.95 • Imprint: Polity

CELL & MOLECULAR BIOLOGY

**Disease Proteomics**

An Effectual Tool in Disease Diagnostics and Therapeutics

Alka Dwevedi

This book covers current research in proteomics – an approach towards the understanding of expressed genes/ proteins – and its role in disease identification and diagnosis, effective treatment, and drug development. Proteomics would be very helpful in detailed analyses of diseased states and suitable treatment protocols. Most diseases are detected late, which usually results in less effective treatment. Proteomics would be the best tool for early disease detection and thus accelerating drug development at a higher pace with respect to their dosage and toxicity. There are various methods of disease diagnosis– however, the application of proteomics in disease diagnosis has been given priority due to its ability of identifying important disease markers accurately. This is helpful for faster disease diagnosis, as well as effective therapeutics. An overview of important applications of proteomics in disease diagnosis and therapeutics include: Cancer diagnosis and therapeutics; Diagnosis of infectious diseases and treatment; Applications to prognosis; and finally Drug Development.

Reference • 9781119503194 • Nov 2020 • Cloth • 250pp • US\$TBA

Fundamental Molecular Biology

Fundamental Molecular Biology

3rd Edition

Lizabeth Allison

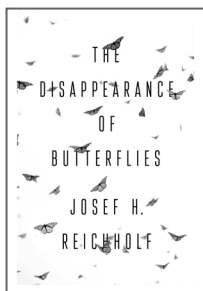
Fundamental Molecular Biology is selective in its coverage and presents essential topics that allow students to develop an understanding of how molecular biology is applied to the analysis of complex systems. Through the process of discovery– observations, questions, experimental designs, results and conclusions–and with an emphasis on the language of molecular biology, students can focus on the key ideas they need to succeed in the course. Students will also have the support they need outside the classroom to leave your course knowing the core, fundamental concepts of molecular biology delivered through a visually engaging, and focused text with a rich media program that promotes self-study.

With a strong emphasis on biomedical research and discovery, students are exposed to both classic and the most up to date techniques and research in molecular biology today.

Reference • 9781119156291 • Dec 2020 • Cloth • 750pp • US\$TBA • Previous ed: 9781118059814



EVOLUTION



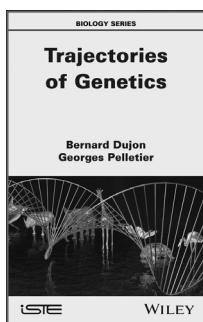
The Disappearance of Butterflies

Josef H. Reichholf

In the last fifty years our butterfly populations have declined by more than eighty per cent and butterflies are now facing the very real prospect of extinction. The eminent entomologist and award-winning author Josef H. Reichholf began studying butterflies in the late 1950s. He brings a lifetime of scientific experience and expertise to bear on one of the great environmental catastrophes of our time. He takes us on a journey into the wonderful world of butterflies – from the small nymphs that emerge from lakes in air bubbles to the trusting purple emperors drunk on toad poison – and immerses us in a world that we are in danger of losing forever. Step by step he explains the science behind this impending ecological disaster, and shows how it is linked to pesticides, over-fertilization and the intensive farming practices of the agribusiness.

Trade • 9781509539796 • Oct 2020 • Cloth • 260pp • US\$35.00 • Imprint: Polity

GENERAL & INTRODUCTORY LIFE SCIENCES



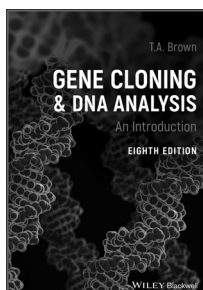
Trajectories of Genetics

Bernard Dujon & Georges Pelletier

As genetics becomes increasingly important in our everyday environment, misinterpretation of its scientific foundation leads to mixed feelings of hope and fear about the potential of its applications. *Trajectories of Genetics* uncovers the many facets of genetics – from humans to animals, plants, and the microscopic world through more than a century of scientific progress. It summarizes the evolution of ideas as the organization and functioning of genetic material has become clearer. The book analyzes how genetic information – transmitted from generation to generation in nucleic acids – enables the fulfillment of biological functions and the evolution of the living world. It illustrates current developments in many areas: the improvement of species of agronomic interest, an increased understanding of microbial worlds, the management of genetic pathologies and the synthesis of new forms of life.

Reference • 9781786305336 • May 2020 • Cloth • 266pp • US\$144.95 • Imprint: Wiley-ISTE

GENETICS



Gene Cloning and DNA Analysis

An Introduction

Terry Brown

Table of contents: Why Gene Cloning and DNA Analysis are Important • Vectors for Gene Cloning: Plasmids and Bacteriophages • Purification of DNA from Living Cells • Manipulation of Purified DNA • Introduction of DNA into Living Cells • Cloning Vectors for *Escherichia coli* • Cloning Vectors for Eukaryotes • How to Obtain a Clone of a Specific Gene • The Polymerase Chain Reaction • Sequencing Genes and Genomes • Studying Gene Expression and Function • Studying Genomes • Studying Transcriptomes and Proteomes • Production of Protein from Cloned Genes • Gene Cloning and DNA Analysis in Medicine • Gene Cloning and DNA Analysis in Agriculture • Gene Cloning and DNA Analysis in Forensic Science and Archaeology.

Reference • 9781119640783 • Nov 2020 • Paper • 408pp • US\$70.00



Population Genetics

2nd Edition

Matthew Hamilton

Now updated for its second edition, *Population Genetics* is the classic, accessible introduction to the concepts of population genetics. Combining traditional conceptual approaches with classical hypotheses and debates, the book equips students to understand a wide array of empirical studies that are based on the first principles of population genetics. Featuring a highly accessible introduction to coalescent theory, as well as covering the major conceptual advances in population genetics of the last two decades, the second edition now also includes end of chapter problem sets and revised coverage of recombination in the coalescent model, metapopulation extinction and recolonization, and the fixation index.

Reference • 9781118436943 • Dec 2020 • Cloth • 496pp • US\$99.95 • Previous ed: 9781405132770



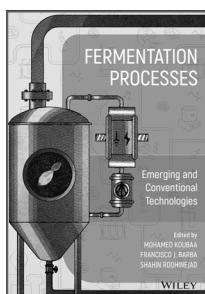
The Science of Health Disparities Research

Irene Dankwa-Mullan, Eliseo Pérez-Stable, Kevin Gardner, Xinzhi Zhang & Adelaida M. Rosario

Health disparities research is a multi-faceted field that includes basic biological, clinical, social and behavioral sciences with the goal of identifying, understanding, preventing, diagnosing and treating or intervening on diseases, disorders and other conditions that are unique to, or more prevalent in racial and ethnic minority populations, socially disadvantaged communities (e.g. low education, low income) and rural communities. In the past decade, there has been growing interest in understanding and addressing disparities in health and outcomes that persist among various population subgroups. This has resulted in various efforts focused on promoting action to reduce and eventually eliminate avoidable inequalities, by addressing social, historical and contemporary injustices. This textbook will serve as the primary source of new knowledge on clinical and translational health disparities science. The overall purpose is to provide a comprehensive and cohesive framework on the principles and applications of health disparities research, which requires an interdisciplinary approach and inclusion of the community in a participatory manner.

Reference • 9781119374817 • Dec 2020 • Cloth • 600pp • US\$TBA

MICROBIOLOGY & VIROLOGY



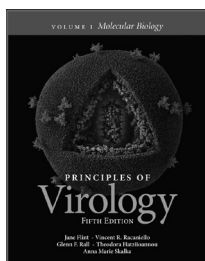
Fermentation Processes

Emerging and Conventional Technologies

Mohamed Koubaa, Francisco Barba & Shahin Roohinejad

Fermentation Processes will focus on enhancing fermentation processes under conventional and non conventional conditions. The application of emerging technologies (e.g. ultrasounds, high voltage electrical discharges, microwaves, etc) to increase the accessibility and bioavailability of the substrates by microorganisms during fermentation has been demonstrated through numerous research works. These technologies have the advantages over conventional ones (i.e. grinding) of consuming less energy, reducing the processing time, along with using less and "green" solvents. Increasing the accessibility of the substrates has, as a consequence, an improved availability for the microorganisms and therefore enhanced productivity. The application of these non-conventional (emerging) technologies could be at sublethal levels prior (inoculum) or during the fermentation process, also called microbial stimulation, which increases the assimilation of substrates, release of enzymes in the medium for substrate hydrolysis, and other benefits.

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5th Edition, 2 Volume Set

Jane Flint, Vincent R. Racaniello, Glenn F. Rall, Theodora Hatzioannou & Anna Marie Skalka

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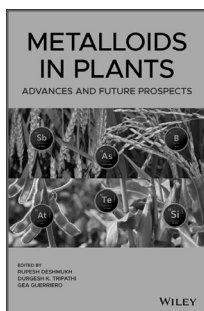
The True Nature of Disease

The True Nature of Disease

Robin Owen

Only recently have the ideas of "Darwinian medicine" received serious interest among most evolutionary biologists and students through the introduction of courses in universities and medical schools. *The True Nature of Disease* discusses the origin and nature of disease, by taking a holistic view which gives readers significant insight into the evolution of disease, and provides reasons as to why disease will continue to be part of human existence. Ultimately why diseases can exist and are successful is because all living organisms have a common origin and a common molecular basis. For instance the coevolution of viruses and eukaryotic cell mechanisms such as DNA replication is only just being understood. Viruses may have originated by "escaping" from the cellular environment, eventually becoming self replicating elements. Even more interesting is the suggestion that DNA replicating proteins, and even DNA itself, in eukaryotic cells may have had a viral origin. Although the notion maybe upsetting to some, disease in humans has always been present and probably always will be as a result of our common biological heritage with all other organisms on Earth.

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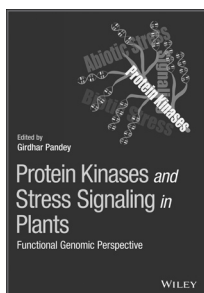
Metalloids in Plants

Advances and Future Prospects

Rupesh Deshmukh, Durgesh Kumar Tripathi & Gea Guerriero

Metalloids have a complex relationship with plant life. Exhibiting a combination of metal and non-metal characteristics, this small group of elements – which includes boron (B), silicon (Si), germanium (Ge), arsenic (As), antimony (Sb), and tellurium (Te) – may hinder or enhance the growth and survival of crops. The causes underlying the effects that different metalloids may have upon certain plants range from genetic variance to anatomical factors, the complexities of which can pose a challenge to botanists and agriculturalists of all backgrounds. With *Metalloids in Plants*, a group of leading plant scientists present a complete guide to the beneficial and adverse impacts of metalloids at morphological, anatomical, biochemical, and molecular levels. Insightful analysis of data on genetic regulation helps to inform the optimization of farming, indicating how one may boost the uptake of beneficial metalloids and reduce the influence of toxic ones.

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Protein Kinases and Stress Signaling in Plants

Functional Genomic Perspective

Girdhar Pandey

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Alok Kumar Srivastava, Prem Lal Kashyap & Madhumita Srivastava

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