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Environmental Science 2024

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Energy in the 21st Century (5th Edition)

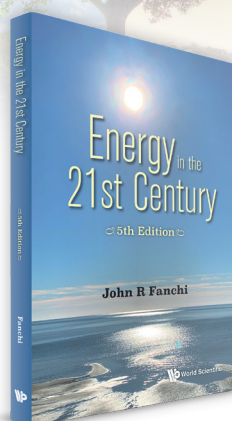
by **John R Fanchi** (Texas Christian University, USA)

This unique compendium provides a fact-based analysis of the most prominent energy issues of our time. It covers the period when the Covid pandemic swept across the world and substantially altered energy production and consumption. It discusses lessons learned following the reopening of economies around the world, and recognizes that we are in the midst of the energy transition. Insights into key energy topics, such as the timing of the energy transition and the need for a reliable energy portfolio for national security, are included.

Some highlights of the new edition involve discussions of climate change and anthropogenic climate change; the COP21 Paris Agreement on Climate Change; lessons learned from the 2022 Russian invasion of Ukraine; introduction to small-scale, modular nuclear fission reactors; updates on the status of nuclear fusion reactor prototypes; advances in solar power plants and transparent photovoltaic cells; improvements in large-scale wind power; tidal and wave energy converters; oil from algae; the EU Supergrid; the transition to electric vehicles and its impact on demand for oil; and updating the Goldilocks Policy forecast.

Readership: Researchers, professionals, academics, undergraduate and graduate students in energy studies, environmental management and planning, and geology.

540pp	Aug 2024	
978-981-127-634-7(pbk)	US\$68	£60
978-981-127-563-0	US\$128	£115
978-981-127-564-7(ebook)	US\$205	£180



World Scientific Series on Emerging Technologies:
Avram Bar-Cohen Memorial Series

Handbook of Solar Thermal Technologies

Concentrating Solar Power and Fuels (In 3 Volumes)

Volume 1: Concentrating Solar Power — Principles and Applications **Volume 2:** Concentrating Solar for Thermochemical Fuels, Storage and Chemical Commodities **Volume 3:** Supplemental Material — Supporting Published Works

edited by **Clifford K Ho** (Sandia National Laboratories, USA) & **Jane H Davidson** (University of Minnesota-Twin Cities, USA)

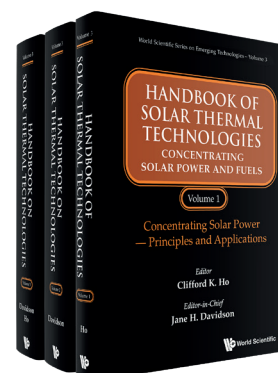
Editor-in-chief: **Jane H Davidson** (University of Minnesota-Twin Cities, USA)

The three-volume handbook showcases the state of the art in the use of concentrated sunlight to produce electricity, industrial process heat, renewable fuels, including hydrogen and low-carbon synthesis gas, and valuable chemical commodities. The handbook illustrates the value and diversity of applications for concentrating solar power to contribute to the expanding decarbonization of multiple cross-cutting energy sectors.

- The set covers the myriad of opportunities to take advantage of the high temperature of the sun by concentrating it optically to supply heat for electricity production and to drive thermochemical reactions to produce fuels and commodities
- Volume I covers the principles and applications of concentrating solar power, which can produce renewable energy on demand with large-capacity, long-duration energy storage
- Volume II covers the emerging field of solar chemistry with a focus on thermochemical cycles to produce renewable fuels

Readership: Academia and research centers including national laboratories, graduate and senior level undergraduate students, and researchers specialising in solar energy, heat transfer, chemical processes, power, optics, materials.

1260pp	Nov 2022	
978-981-124-853-5(Set)	US\$795	£700
978-981-124-860-3(Set)(ebook)	US\$1752	£1540



Towards Net Zero Carbon Initiatives

A Life Cycle Assessment Perspective

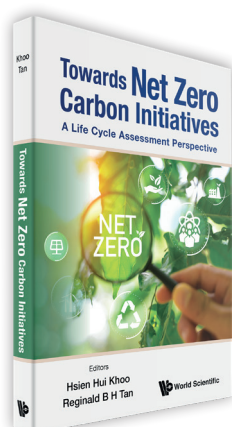
edited by **Hsien Hui Khoo** (A*STAR, Singapore) & **Reginald B H Tan** (A*STAR, Singapore & National University of Singapore, Singapore)

As industrialized nations look into emerging new technologies focusing on renewable or efficient energy use — along with the move towards Sustainable Development Goals — challenges related to achieving low carbon economy projects have gained much attention. This book explores various initiatives and potential methods to achieve net zero carbon targets and issues.

Life Cycle Assessment (LCA) will play an important role as an effective and comprehensive method to analyse potential greenhouse gas emissions and other environmental impacts of a technology or system. LCA is a holistic and system-wide scientific method that can be used to quantify impact metrics chosen to evaluate any emerging Net Zero Carbon technologies of interest, and reveal environmental trade-offs or further research opportunities that are required for balancing CO₂ emissions. LCA perspectives of Net Zero Carbon Technologies can also be used to outline decision making strategies for a nation's shift towards low carbon economic development.

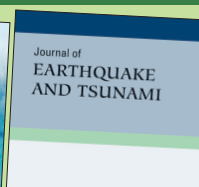
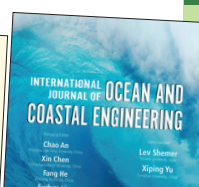
Readership: Life Cycle Analysis Practitioners, Environmental Researchers/Scientists, and Professors.

250pp	May 2024	
978-981-127-620-0	US\$98	£85
978-981-127-566-1(ebook)	US\$157	£140



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Details on
page 14 & 15



CLIMATE CHANGE

Series on the Science of Climate Change

Moist Processes in the Climate System

A Global Perspective from Earth Observations

edited by **Graeme L Stephens** (Colorado State University, USA)

The volume deals with the understanding the moist processes that determine the supply of water to the atmosphere and back to the surface. The observations of the distribution and variability of clouds and precipitation has emerged as a priority in Earth observational programs. Our ability to observe the amount of water vapor, and the properties of clouds and precipitation by satellites that presently orbit the Earth is unprecedented in the history of space-borne Earth observations.

Readership: Graduates and postgraduates in environmental science courses; researchers studying climatology and atmospheric changes.

220pp
978-1-84816-551-9 US\$118 £98
978-1-84816-553-3(ebook) US\$189 £150

Semi-Arid Climate Change

by **Jianping Huang** (Lanzhou University, China),
Xiaodan Guan (Lanzhou University, China) &
Haipeng Yu (Chinese Academy of Sciences, China)

This book provides an overview of processes and mechanisms that characterize semi-arid climate change both regionally and globally. It explains systematically theoretical concepts, including land-atmosphere interactions, ocean-atmosphere interactions, and factors that contribute to climate change, including the impact of human activities. A summary of recent progress in the research in the field and the future of semi-arid regions are also discussed.

Readership: Graduate students of Earth sciences, and advance undergraduate or graduate students in related majors such as atmospheric science, climate change, and Earth sciences.

584pp
978-981-127-617-0 US\$168 £150
978-981-127-618-7(ebook) US\$269 £235

The Climate Debt

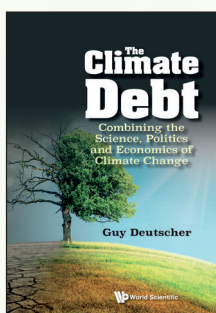
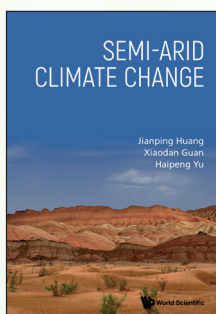
Combining the Science, Politics and Economics of Climate Change

by **Guy Deutscher** (Tel Aviv University, Israel)

- Promotes urgent and necessary dialogue between economists and scientists in the Physical Sciences
- Presents the physical impact, using simple explanations, of the current economic growth which has a dramatic impact on climate warming and disorder
- Explains a unique perspective on the free trade concept from Ricardo, adding nuance to the economic discussion of climate change

Readership: General public interested in: climate science, climate change, the economics of climate change.

150pp
978-981-127-591-3(pbk) US\$28 £25
978-981-127-400-8 US\$48 £40
978-981-127-401-5(ebook) US\$98 £85



Science in Society

Climate Change and Climate Policies

by **Nico Stehr** (Zeppelin University, Germany) &
Hans von Storch (Helmholtz-Zentrum Hereon, Germany & Hamburg University, Germany)

Hans von Storch and Nico Stehr, the authors of this anthology, reflect on the popular and scientific perception and construction of the phenomenon climate, climate change, climate policy and the impact of climate on society. In the early 1990s, the authors encountered notable resistance especially as they wrote about the urgency for societal adaptation to climate change. Something is wrong with our planet, and it is obvious that immediate action is needed to rectify the situation; the mankind activity that has been impacting on climate changes. However, the translation of scientific knowledge into society is not automatic or an autonomous force. Moving science into society is subject to economic, political, and cultural constraints and a central issue of the book.

- Key discussion of climate science in society. Governance of climate. Climate policies and climate science. Knowledge and politics. History of ideas of climate. The social construction of climate

Readership: Anyone interested in the societal consequences of climate change. Students of modern society. Climate scientists. Policymakers.

232pp
978-1-80061-351-5 US\$88 £75
978-1-80061-352-2(ebook) US\$141 £125

Climate, Chaos and COVID

How Mathematical Models Describe the Universe

by **Chris Budd** (University of Bath, UK)

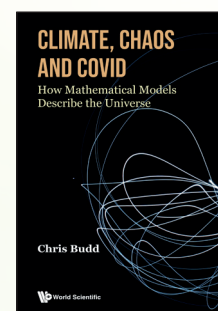
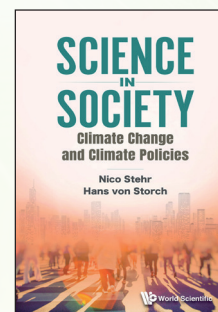
"Chris Budd conveys the power and wonder of mathematics in stories — and, having gained your interest, explains the underlying mathematics. Discover how, during a boring sermon, Galileo observed the predictability of the swing of a pendulum, later explained by the mathematics of Newton. Mathematical models are relatively easy to develop for physical systems where the underlying equations are understood, and are also now being used in biological and social sciences. This was vital during the COVID-19 pandemic. Chris explains how models can describe population behaviour and also spells out their limitations. He uses analogies, quotes, and stories to enliven a complex topic. Look out for the glass of whisky and the warning 'don't eat the menu'."

Vicky Pope

**Honorary Professor STEaPP University College London, UK,
Editor in Chief of Climate Resilience and Sustainability**

Readership: Keen high school students, teachers, STEM undergraduates and postgraduates interested in the field of applied mathematics and mathematical modelling; policymakers and decision makers in relevant industries such as Education, Environment, Health and Social Care, and Energy; members of the general public who want to understand more of the mathematics behind the models used in everyday life.

312pp
978-1-80061-304-1 US\$78 £60
978-1-80061-305-8(ebook) US\$125 £100



Series on Technology Management - Vol 42

Radical Innovation Challenges

Corporate to Climate

edited by **Joe Tidd** (*University of Sussex, UK*)

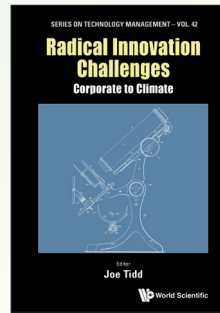
Radical Innovation Challenges focusses on radical and breakthrough innovation, and identifies its distinct sources, organization, processes, and outcomes. This book illustrates conceptual models and practical methods to better understand and manage radical innovation, and provides an argument for an iterative coupling process, between knowledge-push and demand-pull challenges and opportunities.

The book draws upon a distinct interdisciplinary body of knowledge to provide a crucial insight into the latest research and experience, and demonstrates how radical innovation practices and policies can be applied to fundamental corporate and social challenges such as climate change.

- Goes beyond incremental approaches to innovation, such as marketing and design-thinking
- Applies radical innovation practices to complex commercial and climate challenges

Readership: Suitable for academics and post-graduates in the fields of business and management, particularly looking at innovation, technology and information management. Also suitable for professionals in related fields.

488pp **Apr 2023**
978-1-80061-409-3 **US\$158 £140**
978-1-80061-410-9(ebook) **US\$253 £220**



World Scientific Lecture Notes in Economics and Policy - Vol 15

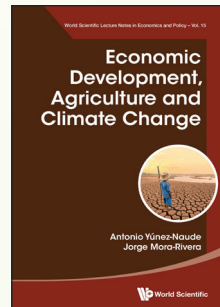
Economic Development, Agriculture and Climate Change

by **Antonio Yúnez-Naude** (*El Colegio de México, Mexico*) & **Jorge Mora-Rivera** (*Tecnológico de Monterrey, Mexico*)

- Based on contemporary scientific literature and evidence, we relate climate change, agricultural and food production, the environment, and sustainable development
- In this book, we compare ecologists' and economists' positions on the environment and their contrasting policies aimed to reduce global warming and forests', soil's, and water's sustainable use
- Using time series data on global warming and institutional economists' contributions to democracy and power, we propose hypotheses to explain why international commitments to reduce greenhouse gas emissions have only partially been put into practice
- This book critically reviews policy proposals to mitigate global warming that ignore the context under which rural households in low- and medium-income countries take their production decisions and natural resources use

Readership: Graduate and undergraduate students in social sciences; Professionals interested in Climate Change, Agriculture, Rural Areas, and Sustainable Development; Policymakers; International institutions for development and NGOs whose mission is to promote poverty and inequality reduction and the sustainable use of natural resources: ECLA, FAO, IDB, World Bank, UNDP, Green Peace.

332pp **Mar 2023**
978-981-126-951-6 **US\$108 £95**
978-981-126-952-3(ebook) **US\$173 £150**



Advances in Entrepreneurial Economics and Sustainable Development - Vol 1

Climate-Smart Innovation

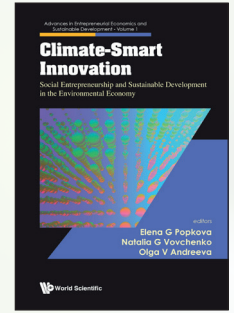
Social Entrepreneurship and Sustainable Development in the Environmental Economy

edited by **Elena G Popkova** (*MGIMO University, Russia*), **Natalia G Vovchenko** (*Rostov State University of Economics, Russia*) & **Olga V Andreev** (*Rostov State University of Economics, Russia*)

This book studies smart green innovation through the prism of social entrepreneurship as a driver for sustainable development and the development of an environmental economy. It systematizes and analyzes the modern challenges of the environmental economy: climate change and environmental pollution. The tendencies and scenarios for the environmental economy are considered in the context of implementing the Sustainable Development Goals. Globalization and international trade are also considered factors in the sustainable development of the environmental economy.

Readership: The primary market of this book is scholars who study the environmental economy, sustainable development, and social entrepreneurship. In this book, they will find the results of the latest studies that reflect the key role of social entrepreneurship in the sustainable development of the environmental economy. The secondary market of the book is practicing experts. In this book, they will find a detailed description of the leading international experience of the sustainable development of the environmental economy based on social entrepreneurship.

424pp **Mar 2023**
978-981-126-424-5 **US\$148 £130**
978-981-126-425-2(ebook) **US\$237 £210**



Politics of Climate Change

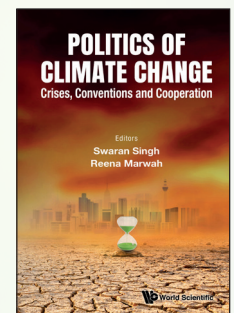
Crises, Conventions and Cooperation

edited by **Swaran Singh** (*Jawaharlal Nehru University, India*) & **Reena Marwah** (*University of Delhi, India*)

This volume seeks to decipher the nature of global climate change politics in the post-pandemic and climate insecure world. Who will be its main actors, main stakeholders, and losers? How will questions of equity, sustainability, and finance interplay at the COP26 event and thereafter? How will developing and poor countries engage with the issue in the next phase of climate politics? Finally, how will the ambition of the Paris Agreement, which is reflected in the language of net-zero targets and the two degrees Celsius temperature goals, be brought into action?

Readership: Academics and students interested in environmental studies, climate change, climate security and society, Asian Studies, governance, and policy studies.

280pp **Feb 2023**
978-981-126-374-3 **US\$98 £85**
978-981-126-375-0(ebook) **US\$157 £140**



World Scientific Series on the Built Environment - Vol 5

Urban Management

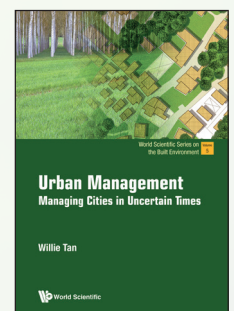
Managing Cities in Uncertain Times

by **Willie Tan** (*National University of Singapore, Singapore*)

This book is about the management of cities amid the major challenges to fast growing cities as well as the struggling ones. It discusses trends in urbanization, urban challenges, the urban management approach, theories of the state and urban management, building capacity, urban planning, local economic development, housing, urban service delivery, public utilities, social services, general urban services, and transport. The book emphasizes general principles rather than specific case studies on managing cities.

Readership: Practitioners and students in the built environment including mayors, urban managers, urban planners, developers, lenders, insurers, architects, engineers, project managers, and other consultants, contractors, and suppliers.

292pp **Jan 2023**
978-981-126-694-2(pbk) **US\$58 £50**
978-981-126-693-5 **US\$98 £85**
978-981-126-695-9(ebook) **US\$157 £140**



EARTH AND PLANETARY SCIENCE

Planetary Systems Now

edited by **Luisa M Lara** (*Instituto de Astrofísica de Andalucía - CSIC, Spain*) & **David Jewitt** (*University of California, Los Angeles, USA*)

Planetary Systems Now offers a broad, inter-disciplinary perspective and up-to-date introduction to the latest results from leading experts in each field. It covers an unusually wide research range, including topics both inside and outside the solar system, and the most recent results from the on-going ground- and space-based investigations. The topics discussed include (i) solar system exploration with its most recent space missions, (ii) theories and evidence concerning planetary system formation and (iii) nature and formation of exoplanets and exoplanetary systems. It is intended to be a readable, heavily illustrated stepping-off point for advanced undergraduate students, graduate students and scientists beginning research in planetary and exoplanetary science topics with questions and answers provided.

Readership: Suitable for graduate level classes in planetary science. Also useful for senior scientists, postgraduate students & postdoctoral students.

350pp **Apr 2023**
978-1-80061-313-3 **US\$128 £100**
978-1-80061-314-0(ebook) **US\$205 £165**

Lectures in Climate Change - Vol 3

Studies of Cloud, Convection and Precipitation Processes Using Satellite Observations

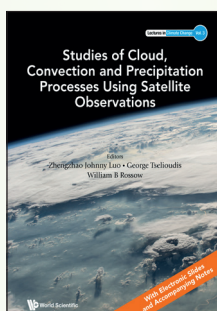
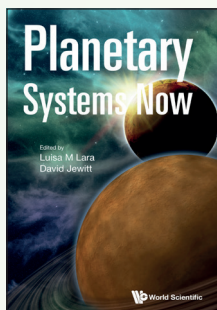
edited by **Zhengzhao Johnny Luo** (*The City College of City University of New York, USA*), **George Tselioudis** (*NASA Goddard Institute for Space Studies, USA & Columbia University, USA*) & **William B Rossow**

Clouds, convection and precipitation processes are central components of Earth's weather and climate. They are produced by atmospheric motions across a very wide range of space-time scales from local weather to long-term global climate variation. They feedback on these motions by perturbing the heating/cooling that drive the atmospheric circulation. These processes also perturb the oceanic circulation and land surface properties that affect the atmospheric circulation.

Included with this publication are downloadable electronic slides and accompanying notes of each lecture for students, teachers, and public speakers around the world to be better able to understand cloud, convection and precipitation processes.

Readership: Weather and climate professionals and students as well as others studying the Earth's environment.

332pp **Dec 2022**
978-981-125-794-0(pbk) **US\$78 £70**
978-981-125-690-5 **US\$148 £130**
978-981-125-691-2(ebook) **US\$237 £210**



ENERGY

Handbook on Smart Battery Cell Manufacturing

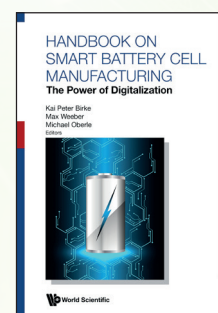
The Power of Digitalization

edited by **Kai Peter Birke** (*University of Stuttgart, Germany & Fraunhofer Institute for Manufacturing Engineering and Automation (IPA), Germany*), **Max Weeber** (*Fraunhofer Institute for Manufacturing Engineering and Automation (IPA), Germany*) & **Michael Oberle** (*Fraunhofer Institute for Manufacturing Engineering and Automation (IPA), Germany*)

- Focuses on battery cell production
- Covers digitalization in battery cell production
- Useful approaches for battery cell mass production (Giga factories)
- Unique combination of battery production oriented on must-have knowledge
- A major book in the field of transformation to full-scale electric mobility

Readership: Industry Practitioners and Researchers specialising in Battery Cell Manufacturing; Advanced Undergraduate and Postgraduate Students.

488pp **Jul 2022**
978-981-124-561-9 **US\$158 £125**
978-981-124-562-6(ebook) **US\$253 £200**



Energy

What About It?

by **Jean Pierre Fillard** (*University of Montpellier II, France*)

This book is designed to provide readers with a general understanding of energy. No background in related fields in higher education are needed. It explores the topic by beginning with what "energy" means and where it comes from; the different forms of energy we currently known and when they were discovered; as well as the innovative breakthroughs and historical milestones which followed their discovery. It then expounds on how each newly discovered form of energy with the use of increased scientific and engineering knowhow needed for these discoveries, and their impacts that have powered our evolution of human civilizations, before arriving at the central concern of the 21st century: how long will humanity's access to energy last?

Readership: Inquiring minds of all levels seeking to understand energy, where it comes from, and humanity's future.

204pp **Oct 2023**
978-981-126-746-8 **US\$68 £60**
978-981-126-747-5(ebook) **US\$109 £95**



Advanced Wind Turbines

by **Palanisamy MohanKumar** (*Nanyang Technological University, Singapore*), **Sivalingam Krishnamoorthi** (*Rolls-Royce Singapore Pte Ltd, Singapore*) & **Teik-Cheng Lim** (*Singapore University of Social Sciences, Singapore*)

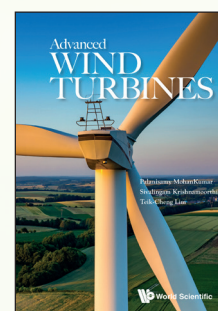
"This book is a good reference for those wanting to better understand the aerodynamics driving the design and performance of vertical axis wind turbines. The authors have written it from the perspective of industrial applications focused on the conditions specifically for small city-states that are not naturally endowed with sufficiently strong wind. It is a veritable mine of numerical and experimental data, useful for research and professional work. It proved to be a useful resource throughout the design process for a client's unique wind energy project. I would strongly recommend this book as a good reference for scientists, engineers and any companies worldwide working on wind turbines."

Ion Paraschivoiu, Full Professor, Polytechnique Montréal, Canada

This is a work of paramount usefulness for areas which have long wanted to jump on the renewable energy bandwagon, but have thus far been hampered by their natural geographical limitations.

Readership: Wind turbine engineers and companies working on non-conventional wind turbines, such as Vertical Axis Wind Turbines and Floating Offshore Wind Turbines. Academics, researchers, and postgraduate students in Wind Engineering.

500pp **Jul 2023**
978-981-127-248-6 **US\$168 £150**
978-981-127-249-3(ebook) **US\$269 £235**



World Scientific Series in Current Energy Issues - Vol 8

Urban Energy and Climate

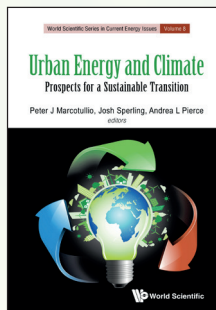
Prospects for a Sustainable Transition

edited by **Peter J Marcotullio** (*City University of New York, USA*), **Josh Sperling** (*National Renewable Energy Laboratory, USA*) & **Andrea L Pierce** (*University of Delaware, USA*)

This edited volume brings together leading experts on the prospects and challenges of urban energy innovation and on related-economic, social and environmental sustainability transitions. The focus of the volume is on multidisciplinary reviews, research informing technologies and policies for sustainability, and analytical insights addressing rapid urbanization and changes across a diverse typology of global cities. The volume will include an overview of the current state of urban energy systems. It will also document and evaluate urban energy prospects for a sustainable, resilient future.

Readership: Professionals, researchers and informed readers interested in understanding urban energy prospects for a sustainable, resilient future.

390pp **May 2023**
978-981-126-811-3 **US\$138 £120**
978-981-126-812-0(ebook) **US\$221 £195**



Advances in Chemical and Process Engineering - Vol 3

Material and Energy Balances for Engineers and Environmentalists

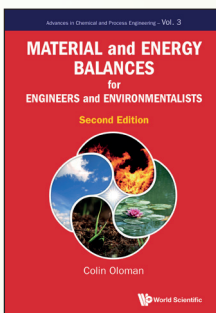
(2nd Edition)

by **Colin Oloman** (*University of British Columbia, Canada*)

This comprehensive compendium presents the basic M&E balance concepts and calculations in a format easily digested by students, engineering professionals and those concerned with related environmental issues. The useful reference text includes worked examples for each chapter and demonstrates process balances in the framework of M&E concerns of the 21st century. The additional problems and solutions in the Appendix embrace a wide range of subjects, from fossil fuels to fuel cells, solar energy, space stations, carbon dioxide capture and sodium-ion batteries.

Readership: Researchers, professionals, academics, and graduate students in chemical engineering, environmental engineering and industrial chemistry.

400pp **May 2023**
978-1-80061-324-9(pbk) **US\$68 £55**
978-1-80061-310-2 **US\$138 £110**
978-1-80061-311-9(ebook) **US\$221 £175**



Thermal Energy Storage

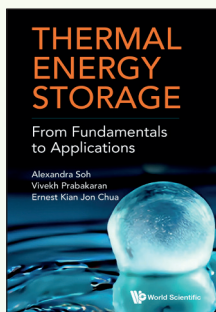
From Fundamentals to Applications

by **Alexandra Soh** (*National University of Singapore*), **Vivekh Prabakaran** (*National University of Singapore*) & **Kian Jon Ernest Chua** (*National University of Singapore*)

This comprehensive compendium covers the development of thermal energy storage, from the most fundamental principles to recent developments and case studies in the field. Key focus is on the context of urban and commercial thermal management such as district cooling and heating systems and decentralised energy systems. State-of-the-art advancements in both academia and industrial applications highlights the current direction of innovation and trends in the field.

Readership: Researchers, professionals, academics, graduate students in mechanical engineering, systems engineering, new materials and energy studies.

228pp **Apr 2023**
978-981-127-117-5 **US\$88 £75**
978-981-127-118-2(ebook) **US\$141 £125**



Decarbonizing Asia

Innovation, Investment and Opportunities

edited by **Tony A Verb** (*Carbonless Asia, Singapore*) & **Roman Y Shemakov** (*Carbonless Asia, Singapore*)

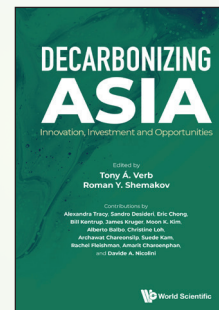
Contributions by: **Alexandra Tracy**, **Sandro Desideri**, **Eric Chong**, **Bill Kentrup**, **James Kruger**, **Moon K Kim**, **Alberto Balbo**, **Christine Loh**, **Archawat Chareonsilp**, **Suede Kam**, **Rachel Fleishman**, **Amarit Charoenphan** & **Davide A Nicolini**

As more than half of the planet's CO2 is emitted in Asia-Pacific, there is no way around it: the region has to become a leader in the global fight against climate change, if we are to win it. This transition also presents one of the greatest investment opportunities of the coming decades. The region is the most vulnerable to desertification, flooding, and sea level rise, but also has most of the planet's people, megacities, and renewable energy capacity. The sky is the limit.

This pivotal book explores the intersection of decarbonization, innovation, and Asia-Pacific. It provides a snapshot of initiatives by industry leaders and the public sector to reduce emissions. Through detailed technological analysis, case studies, and interviews of nine key industries, the authors highlight the emerging trends and commercial opportunities. The region must bring capital, technology, and policy together if we are to reach the most important milestone of this century: net zero by 2050.

Readership: Mid- and senior management of companies with exposure or operations in the APAC region in industries that are impacted by decarbonization efforts and targets, and the sustainable technology, innovation community, including startup founders, investors, green finance professionals and sustainability advisors.

376pp **Dec 2022**
978-981-126-466-5(pbk) **US\$48 £40**
978-981-126-386-6 **US\$98 £85**
978-981-126-387-3(ebook) **US\$157 £140**



Solved Problems in Transport Phenomena

Momentum Transfer

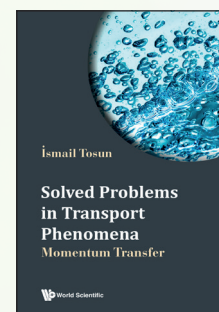
by **Ismail Tosun** (*Middle East Technical University, Turkey*)

Transport Phenomena is an umbrella term to describe the fundamental processes of momentum, energy, and mass transfer.

This unique compendium covers momentum transfer at the microscopic and macroscopic levels in the three stages of problem-solving, namely formulation, simplification, and mathematical solution. The book does not overwhelm students with a large repertoire of problems. Instead, it highlights clear and easy presentation to help students grasp the methodology in problem-solving. This useful reference text benefits upper undergraduate and graduate level students in the fields of chemical, mechanical, civil, and environmental engineering.

Readership: Researchers, professionals, academics, and graduate students in chemical engineering, mechanical engineering, civil engineering and environmental engineering.

276pp **Oct 2022**
978-981-125-624-0 **US\$98 £80**
978-981-125-625-7(ebook) **US\$157 £125**



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Dynamic Decisions

Energy PIVOT, Adaptive Moves, Winning BOUnCE

by **Ricardo G Barcelona**

Foreword by: **Franz Heukamp**

"To fully realise the benefits of a low-carbon energy future, a manager would require productive dialogue amongst stakeholders. Under a polarised societal milieu, it is tempting to see policy and energy firms to be necessarily at odds. As Chief Executive, I seek to align our purpose to work for a common good, recognising our diverse interests and capabilities. Dynamic Decisions places humans at the centre of decision-making, offering a fresh approach by framing dilemmas under ambiguous ecosystems. This allows policymakers and managers to rechannel their efforts to work on what they can do better so that society does well whilst firms also prosper."

Antonio Brufau Niubó

Chairman, Repsol and Repsol Foundation, Spain

"Dynamic Decisions deepens managers' insights into how humans interact and shape decisions under evolving industry and policy ecosystems. As the author posits in Energy Investments, his previous book, scenarios and analytical tools inform managers but cannot prescribe a decision. In placing the person at the core of decision-making, how managers respond to uncertainties, extreme events such as pandemic, or risks, could turn gloom into lucrative niches that firms could pivot into the next boom."

Bernardo M Villegas

Co-Founder, University of Asia and the Pacific,
former member, Constitutional Commission, Philippines, and
Board of Adviser,
Rolls Royce, United Kingdom

Readership: Managers and policymakers who seek to benefit their firms and communities in how they conduct their business; academics studying behavioural economics, investment, and green energy finance will also benefit from this book.

756pp	Sep 2022	
978-1-80061-196-2	US\$98	£80
978-1-80061-197-9(ebook)	US\$157	£125

Principles of Renewable Energy Engineering with Worked Examples

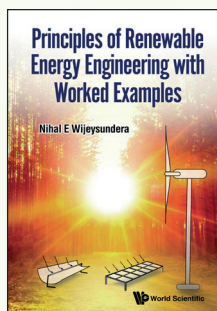
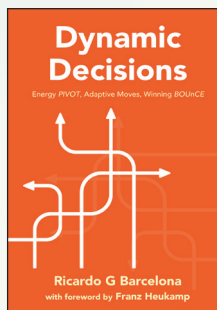
by **Nihal E Wijesundera**

In this volume, engineering principles of renewable energy are presented as extensions of the various subjects covered in regular engineering courses. Topics include solar thermal and solar PV power, wind power, energy storage, tidal power, wave power, and ocean thermal energy, and hydroelectric, geothermal and biomass systems.

The comprehensive textbook brings the principles of renewable energy engineering together in a single book equivalent to that of a standard engineering title. A novel feature of this unique reference is the 30 worked examples and problems highlighted at the end of each chapter. Numerical answers are provided for all the problems. Readers should be able to avoid the need to refer to several books on individual energy sources to develop a course on renewable energy.

Readership: Professionals, academics, researchers, undergraduate and graduate students in mechanical engineering, chemical engineering, civil engineering and energy studies.

628pp	Sep 2022	
978-981-125-114-6	US\$168	£150
978-981-125-115-3(ebook)	US\$269	£215



Cosmic Analogies

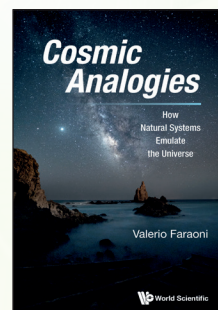
How Natural Systems Emulate the Universe

by **Valerio Faraoni** (Bishop's University, Canada)

This book discusses analogies between relativistic cosmology and various physical systems or phenomena, mostly in the earth sciences, that are described formally by the same equations. The book surprises the reader with analogies between natural systems and exotic systems such as possible universes.

Readership: Researchers in cosmology and/or earth sciences.

288pp	Sep 2022	
978-1-80061-342-3	US\$98	£85
978-1-80061-343-0(ebook)	US\$157	£140



ENVIRONMENTAL MANAGEMENT

Architectural Education in 21st Century Asia

How to Learn Architecture

by **Kheng Soon Tay** (National University of Singapore, Singapore)

New Asian architects must be able of finding new design languages, expressions, new geometries within new working methods capable of engaging in trans-disciplinary discourses and be able to inspire the masses of people at all levels of society to the new future Asia will lead globally. To do this, this book advocates and calls attention to learning basic skills lost in the context of rapid urbanisation and distortions caused to deep Asian civilizational values. In this process, the fostering of relevant attitudes through empowering our Asian architecture students is of the utmost importance. There are many examples of such empowerment in this book.

Readership: Researcher, graduate students and tutors in the field of architecture, arts and social science and Asian Studies.

250pp	Feb 2024	
978-981-4417-76-1	US\$110	£91
978-981-4417-77-8(ebook)	US\$176	£140

Series in Energy Transition, Carbon Neutrality, and Sustainability - Vol 1

Electricity Market Reforms in the ASEAN, China, India, and Japan

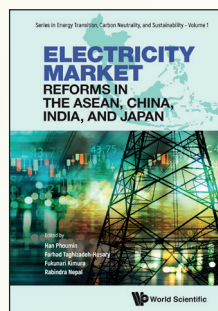
edited by **Phoumin Han** (Economic Research Institute for ASEAN, and East Asia (ERIA), Indonesia),
Farhad Taghizadeh-Hesary (Tokai University, Japan),
Fukunari Kimura (Keio University, Japan) &
Rabindra Nepal (University of Wollongong, Australia)

The electricity sector's reforms aim to modernise its infrastructure, rules, policies, and procedures to allow for more efficiency and for clean energy to have the same playing field in the power competition/wholesale/retail electricity market. This will enable inefficient power to be phased out gradually. Over the past 2 decades, there has been remarkable progress in the Association of Southeast Asian Nations (ASEAN) electricity markets that has increased the electrification ratio substantially; however, it has not achieved free market competition, universal electrification, and emission reduction plans. ASEAN aims to achieve universal access to electricity by 2030.

Electricity Market Reforms in ASEAN, China, India, and Japan provides 10 empirical studies investigating and evaluating the electricity market reforms in Southeast Asia, China, India, and Japan. The book analyses the electricity market policy reform plans, market liberalisation, tariff reform, electricity trade, renewable energy integration, resource allocation, and the sustainability of the electricity market in the region and these countries. It provides policy recommendations to foster the reforms and increase market efficiency.

Readership: Graduate students, researchers, experts, policymakers in the field of energy policy, energy economics, ASEAN and Asian studies, trade and economic integration.

300pp	May 2023	
978-981-127-057-4	US\$108	£95
978-981-127-058-1(ebook)	US\$173	£150



Sustainable Chemistry Series

Densification Impact on Raw, Chemically and Thermally Pretreated Biomass

Physical Properties and Biofuels Production
edited by **Jaya Shankar Tumuluru** (Southwestern Cotton Ginning Research Laboratory, USA)

This book's focus is to understand how the densification process variables, biomass types and their blends, mechanical preprocessing, and thermal and chemical pretreatment methods impact the quality of the densified products produced for biofuel production.

- There is no specific book on the densification of raw biomass and their blends, pretreated (thermally and chemically) biomass, and its impact on the quality of the densified products and biofuels production
- The book addresses the biomass challenges and how densification helps to overcome the challenges in terms of storage, transport, and conversion to fuels
- The authors of the book chapters are experts in the area's biomass pre-processing and pre-treatments, and conversion
- The book's authors have diverse educational backgrounds: agricultural and biological engineering, chemical engineering, and materials science

Readership: Undergraduate and graduate students, university professors, national laboratory researchers, independent researchers, industry, biorefinery managers, biomass process engineers, policy makers.

262pp **May 2023**
978-1-80061-378-2 **US\$98 £85**
978-1-80061-379-9(ebook) **US\$157 £140**

World Scientific Series in Nanoscience and Nanotechnology

The World Scientific Reference of Water Science (In 3 Volumes)

Volume 1: Molecular Engineering of Water Sensors **Volume 2:** Nanotechnology for Water Treatment and Water Interfaces
Volume 3: Current Status and New Technologies in Water Desalination

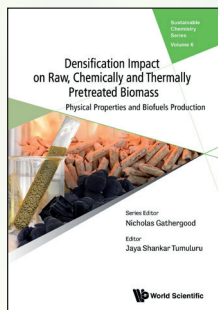
edited by **Matthew Tirrell** (The University of Chicago, USA & Argonne National Laboratory, USA), **Junhong Chen** (The University of Chicago, USA & Argonne National Laboratory, USA) & **Yoram Cohen** (University of California, Los Angeles, USA)

Editor-in-chief: **Matthew Tirrell** (The University of Chicago, USA & Argonne National Laboratory, USA)

- This book volume covers state-of-the-art water sensing research based on molecular engineering and technologies, including field-effect transistors, optical fibers, electrochemical technologies, surface acoustic-wave technologies, DNA and aptamer-based technologies, microfluidic technologies, and smart phone-based technologies
- The volume covers zero-, one-, two-, and three-dimensional nanostructured materials, metal organic frameworks, and self-healing materials, as well as the additive manufacturing of water sensors
- The contaminants addressed include heavy metals, bacteria and microorganisms, pesticides, organic compounds, phosphates and nitrates, various biomolecules, and other hazardous materials in water
- This book volume is contributed by leading water sensing experts around the world, with several highly cited researchers

Readership: Researchers and advanced undergraduate students and graduate students specialising in the field of water science and water treatment.

1448pp **Dec 2022**
978-981-124-610-4(Set) **US\$1490 £1190**
978-981-124-611-1(Set)(ebook) **US\$2384 £1905**



GENERAL ENGINEERING

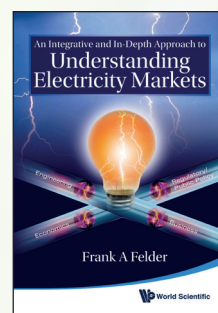
An Integrative and In-Depth Approach to Understanding Electricity Markets

by **Frank A Felder** (Rutgers University, USA)

- Presents an integrative approach across several disciplines, helping readers to have a much deeper understanding of electricity markets than with a singular approach
- Addresses the important issues, problems and challenges facing the industry
- Blends rigorous analysis with unique insights, anecdotes and case studies

Readership: Graduate students; researchers in engineering, law and public policy; professionals at Independent Systems Operators, public utility commissions, and public policy; engineers, lawyers and economists.

200pp **Feb 2024**
978-981-283-829-2 **US\$85 £71**



Series on Quality, Reliability and Engineering Statistics

Design for Six Sigma for Engineers

by **Matthew Hu** (Wayne State University, USA), **Kai Yang** (Wayne State University, USA), **Michael Sheh** (Engineous Software Inc., USA) & **Malik Kayupov** (Engineous Software Inc., USA)

- IDOV process for DFSS
- Inventive Design methods
- Numerical and CAE tools
- Step by step procedures
- Examples and case studies

Readership: Graduate students, engineers and industrialists interested in the Design for Six Sigma methodology.

500pp **Feb 2024**
978-981-256-063-6 **US\$115 £95**

Series on Chemistry, Energy and the Environment

Synthesis and Applications in Chemistry and Materials (In 4 Volumes)

Volume 1: Metal Coordination and Nanomaterials

Volume 2: Enzymatic and Organic Systems

Volume 3: Metal Complex Catalytic Systems and Materials

Volume 4: Biomass and Waste Valorisation, Functional Materials, Energy Conversion and Supercritical Systems

edited by **Armando J L Pombeiro** (Universidade de Lisboa, Portugal), **Kamran T Mahmudov** (Universidade de Lisboa, Portugal) & **Maria de Fátima Costa Guedes da Silva** (Universidade de Lisboa, Portugal)

Chemistry and Material Sciences naturally depend greatly on Synthesis as the initial stage for the existence of compounds and materials with desired behaviors, within the overall streamline of Design/Synthesis — Properties — Application/Function, and their relations. Such a general approach is of a too wide scope to be properly treated in a single set of publications, but this one on "Synthesis and Applications in Chemistry and Materials" restricts itself by aiming to show the strength and international character of the current research in synthetic chemistry that is being developed in Portugal or abroad by teams that cooperate with this country. Hence, it gathers representative contributions of main Portuguese research groups and foreign collaborating ones. Nevertheless, the topic should be understood in a wide sense, being open to types of studies with significance on sustainable synthesis and applications in chemistry, materials and/or related sciences.

Readership: Graduate students and researchers in coordination chemistry, nanomaterials, enzymatic and organic systems, metal complex catalytic systems and materials, biomass and waste valorisation, energy conversion and supercritical systems.

1200pp **Feb 2024**
978-981-127-993-5(Set) **US\$1100 £970**
978-981-127-994-2(Set)(ebook) **US\$2061 £1815**

Unconventional Subsurface Flow and Transport - Vol 1

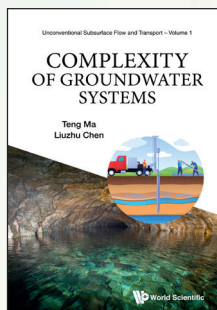
Complexity of Groundwater Systems

by **Teng Ma** (China University of Geosciences, China) & **Liuzhu Chen** (China University of Geosciences, China)

This comprehensive compendium overviews the complexity and uncertainty of groundwater systems, including groundwater boundaries, runoff, media, dynamic and chemical field, and stress and thermal field. The research methods and study examples were also introduced in great detail.

Readership: Advance text for graduate students and researchers in groundwater science.

173pp	May 2023	
978-981-122-903-9	US\$78	£60
978-981-122-904-6(ebook)	US\$125	£100



Environmental Fluid Mechanics

Ecohydraulics: Fundamentals and Applications

Ecological and Environmental Fluid Mechanics

by **Thomas Hardy** (Texas State University, USA)

Providing a holistic treatment of multidisciplinary aspects of ecohydraulics, this book covers topics from remote sensing as well as sampling strategies for physical, chemical to biological components of river systems. It also includes emerging multidisciplinary assessment and modeling tools addressing hydrology, hydraulics, sediment transport, water quality and temperature, riparian systems and aquatic resources. Supplementary material for this book includes necessary software and data with accompanying Laboratory Manual with exercises from each chapter.

- This is the first holistic treatment of multidisciplinary aspect of ecohydraulics that bridges from theory to applications and integrates sampling methodologies, remote sensing, hydraulic modeling, water quality, sediment transport, ecological modeling and interdisciplinary assessment frameworks

Readership: This book is intended for students and professionals in the integrated engineering and ecological disciplines.

400pp	Dec 2023	
978-981-3274-98-3	US\$118	£105

Bioengineering Fluid Mechanics

by **Tin-Kan Hung** (University of Pittsburgh, USA)

This book highlights the basic concepts and equations for bioengineering flow processes. Physical concepts and meanings are emphasized while rigorous derivations are simplified, making it easier for self learning on some biological and medical flow processes. The well known Bernoulli equation in hydraulics is extended for pulsating flows, peristaltic flows and cardiac pumping.

- Relates the conventional fluid engineering to the different phenomena in bioengineering system
- Provides a systematic framework for life scientists to comprehend the mechanics of biological flow processes

Readership: Researchers, professionals, academics, graduate and advanced undergraduate students in biomedical engineering, engineering mechanics, mechanical & aerospace engineering, chemical engineering and civil & environmental engineering.

200pp	Nov 2023	
978-981-4295-15-4	US\$68	£56

Solved Problems in Transport Phenomena

Energy Transfer

by **Ismail Tosun** (Middle East Technical University, Turkey)

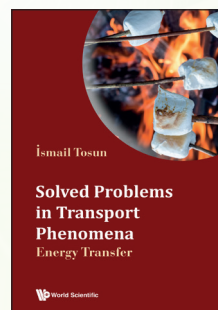
Transport Phenomena is an umbrella term to describe the fundamental processes of momentum, energy, and mass transfer.

This unique compendium covers energy transfer at the microscopic and macroscopic levels in the three stages of problem-solving, namely formulation, simplification, and mathematical solution. The book does not overwhelm students with a large repertoire of problems. Instead, it highlights clear and easy presentation to help students grasp the methodology in problem-solving.

This useful reference text benefits upper undergraduate and graduate level students in the fields of chemical, mechanical, petroleum, and environmental engineering.

Readership: Researchers, professionals, academics, and graduate students in chemical engineering, mechanical engineering, petroleum engineering and environmental engineering.

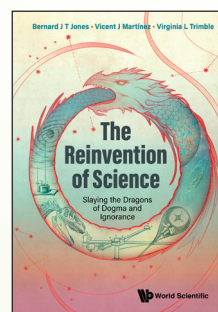
361pp	Jul 2023	
978-981-127-429-9	US\$138	£120
978-981-127-430-5(ebook)	US\$221	£195



The Reinvention of Science

Slaying the Dragons of Dogma and Ignorance
by **Bernard J T Jones** (University of Groningen, The Netherlands), **Vicent J Martinez** (Universitat de València, Spain) & **Virginia L Trimble** (University of California, Irvine, USA)

"Three noted scientists present a unique view of science history as seen through the lens of its most infamous misconceptions. Well researched and engagingly written, this book demonstrates how the scientific enterprise has evolved and matured over the centuries as clever men and women challenged the common dogmas of their day on how nature works."



Marcia Bartusiak

MIT Professor of the Practice Emeritus and the author of seven books on astrophysics and the history of astronomy

- Easily readable and successfully presents a highly original approach to the history of science
- Includes original infographics explaining the more technical questions
- By weaving together classical studies, history and astronomy, the book deals with different branches of science, with a clearly multidisciplinary approach
- Social issues impact on science: discrimination against women, social class and academic elitism are all factors, as are wars and vested interest

Readership: General audience with an interest in Science, History of Science, Astronomy and Physical Science. Especially high school students in their final two years and junior college students. Broad public that enjoys science and general science books.

418pp	Jun 2023	
978-1-80061-360-7(pbk)	US\$38	£35
978-1-80061-336-2	US\$58	£50
978-1-80061-337-9(ebook)	US\$98	£85

Titles by **Nobel laureates** and on Nobel Prizes.

The landing page of this collection:

<https://www.worldscientific.com/page/nobeltitles>



Series in Remote Sensing - Vol 5

Telegeoprocessing

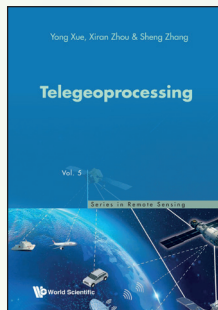
by **Yong Xue** (China University of Mining and Technology, China), **Xiran Zhou** (China University of Mining and Technology, China) & **Sheng Zhang** (China University of Mining and Technology, China)

Telegeoprocessing is the integration of remote sensing, Geographic Information System (GIS), Global Navigation Satellite System (GNSS), Big Data and Telecommunication.

This unique compendium brings together most of the key issues involved in research in novel systems in telegeoprocessing. It elucidates a comprehensive introduction to the problems encountered in telegeoprocessing engineering and the major technologies and standards related to designing an integrated, fully functional telegeoprocessing system based on the latest multimedia and telecommunication technologies. The useful cross-disciplinary reference text benefits teachers and researchers in both universities and research organizations, and for anyone keen in the impact of Earth observation, big data, geoinformatics in civil communities and human societies.

Readership: Researchers, professionals, academics, and graduate students in environmental engineering and environmental management & planning.

348pp **Feb 2023**
978-981-126-217-3 **US\$128** **£100**
978-981-126-218-0(ebook) **US\$205** **£165**



Stirling and Thermal-lag Engines

Motive Power without the CO₂

by **Allan J Organ** (University of Cambridge, UK & King's College London, UK)

The book offers ready-made tools including a simplified algorithm for particle trajectory map construction; an author-patented mechanism delivering optimised working-gas distribution; flow and heat transfer data re-acquired in context and an illustrated re-derivation of the academically respected Method of Characteristics which now copes with shock formation and flow-area discontinuities. All formulations are presented in sufficient detail to allow the reader to 'pick up and run' with them using the data offered in the book.

The various strands are drawn together in a comprehensively engineered design of an internally focusing solar Stirling engine, presented in a form allowing a reader with access to basic machining facilities to construct one.

The sun does not always shine. But neither will the oil always flow. This new title offers an entrée to technology appropriate to the 21st century.

- Identifies and rectifies a fundamental misunderstanding in the 'bible' on heat exchange (on which NASA subcontractors rely for heat transfer and flow friction correlations)
- Dynamic Similarity is one of the most valuable analytical tools of physics and engineering. This author has been — and remains — alone in mobilising it to the task at issue
- Numerical algorithms used in the new title are those tried and tested over decades in other long-established disciplines
- The first account to take account of the large cache of relevant experimental and theoretical work on compressible flow through regenerator materials (wire screens)
- Existing manufacturing resources cannot be re-directed to the manufacture of p-v panels but can mass-produce components for Stirling engines

Readership: Lecturers and teachers of contemporary engineering syllabuses as well as members of thermodynamics groups at every university faculty worldwide. Members of the worldwide energy sector and mid- and low-technology industries seeking to diversify into low/zero-carbon energy. The low-temperature cooling/refrigeration industry and contractors to the growing space exploration industry, where Stirling-based electricity generation is of vital importance to engineers.

484pp **Jan 2023**
978-1-80061-104-7 **US\$148** **£130**
978-1-80061-105-4(ebook) **US\$237** **£190**



Topics in Advanced Geoinformatics - Vol 1

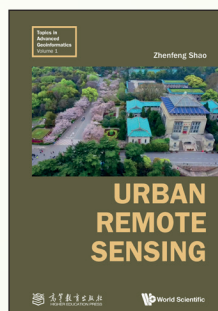
Urban Remote Sensing

by **Zhenfeng Shao** (Wuhan University, China)

The volume is divided into ten chapters, which describes the principles of urban remote sensing and multi-source remote sensing big data acquisition, urban remote sensing image processing methods, urban remote sensing image specific applications in related industries, and the prospect of urban remote sensing development. It summarizes the achievements on urban remote sensing projects, uses a large number of algorithm studies as intuitive materials, combines the achievements of urban remote sensing technology, and provides typical industry solutions or case studies in specific applied urban remote sensing areas.

Readership: Researchers, professionals, academics, undergraduate and graduate students in geology, earth studies and earth science.

256pp **Feb 2023**
978-981-126-616-4 **US\$88** **£75**
978-981-126-617-1(ebook) **US\$141** **£125**



Light Power: Half a Century of Solar Electricity Research

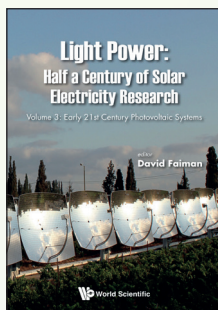
Volume 3: Early 21st Century Photovoltaic Systems

edited by **David Faiman** (Ben-Gurion University of the Negev, Israel)

- The authors of the chapters were all major players in the development of solar electric power systems
- The chapters contain technical details that are often skipped over in textbooks
- The chapters contain technical details about systems that were successfully demonstrated, but abandoned due to economic factors that may lose their relevance in the future

Readership: Historians, researchers, students, professionals interested in the photovoltaic and alternative energy source industry.

392pp **Feb 2023**
978-981-126-582-2 **US\$128** **£115**
978-981-126-583-9(ebook) **US\$205** **£180**



Advanced Series on Ocean Engineering

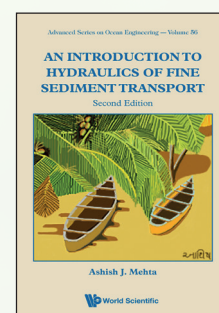
An Introduction to Hydraulics of Fine Sediment Transport (2nd Edition)

by **Ashish J Mehta** (Nutech Consultants, Inc., USA)

In this second edition most of the chapters have been substantially updated, rewritten, and expanded. Overall, a significant change has also been made throughout by replacing sediment concentration, a unit dependent quantity at the heart of numerous descriptions, measurements, and calculations, with the nondimensional sediment volume fraction. It marks a divergence in the manner in which fine sediment transport data and calculations are conventionally presented.

Readership: Teachers, researchers, upper division undergraduates and graduate students in civil engineering, environmental engineering and coastal geology; Courses in sediment transport, port and harbor engineering, and applied shallow water marine physics. Recommended reading for those interested in understanding particle transport in water.

1056pp **Dec 2022**
978-981-125-723-0 **US\$158** **£125**
978-981-125-724-7(ebook) **US\$253** **£200**



OCEAN AND COASTAL ENGINEERING

Coastal Management in the Face of Climate Change

by **Dominic Reeve** (*University of Plymouth, UK*)

This book highlights major concepts developed in the last 20 years or so for assessing the performance of coastal defences. It begins with an introduction to the key concepts of coastal management and the idea that most decisions have to be made using information which is neither complete nor certain. This lays the foundation for the second chapter which explains how a risk-based approach can help decision-makers constrain and to some extent quantify uncertainties. The following chapters comprehensively cover practical aspects of beach monitoring, estimating the nearshore wave conditions, quantifying the littoral drift environment, predicting changes in beach configuration, integrating the various components into a coherent management framework. Several examples of applications of the methods are given to illustrate the advantages and limitations of the different techniques, together with a case study from the south coast of the UK.

Readership: Graduate students, practitioners, and researchers in coastal engineering, civil engineering, environmental management and planning and environmental engineering.

200pp	Feb 2024	
978-1-84816-583-0	US\$106	£88
978-1-84816-584-7(ebook)	US\$170	£135

Marine Ecosystem Dynamics Models

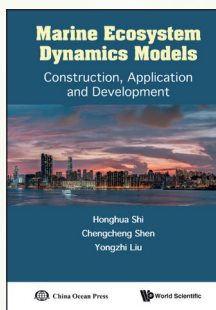
Construction, Application and Development
by **Honghua Shi** (*First Institute of Oceanography, MNR, China*), **Chengcheng Shen** (*Second Institute of Oceanology, MNR, China*) & **Yongzhi Liu** (*First Institute of Oceanography, MNR, China*)

This book presents the fundamental theories, methodologies and case studies of marine ecosystem modeling with a special focus on marine ecological dynamics that could provide scientists and researchers with a stable and reliable technical framework to study marine life and their developments.

This book also clarifies the research objective and model classification methods of marine ecosystem dynamics research and analyzes the key marine ecological processes that affect modeling. The technical framework for improving the performance of modeling is also proposed, and the latest progress in research, as well as existing difficulties and challenges in end-to-end dynamics models are reviewed and analyzed. A dimensionality reduction theorem is established and derived for analyzing the stability of the solutions of a class of self-conserving marine ecosystem dynamic models. Also included in this work are several new types of marine ecosystem dynamics models constructed by modern computing methods — including artificial neural networks, cellular automata, and statistical dynamics — and case studies.

Readership: Professional and technical personnel, managers and graduate students.

434pp	Jun 2023	
978-981-126-420-7	US\$148	£130
978-981-126-421-4(ebook)	US\$237	£210



Advanced Series on Ocean Engineering - Vol 57

Coasts and Estuaries

Management and Engineering

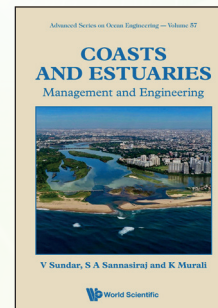
by **V Sundar**, **S A Sannasiraj** & **K Murali**

(*Indian Institute of Technology Madras, India*)

This book encompasses the engineering principles involved in field data observation, measurement, collection, and processing; the prediction of wave climate and sediment transport using measured field data; numerical modelling involving calibration and validation of the hydrodynamic and morphodynamic processes; and the study of the underlying physical processes and the application of sustainable engineering measures to combat coast- and estuary-related problems.

Readership: Advanced undergraduates, graduate students, planners, and design engineers.

412pp	Jan 2023	
978-981-126-180-0	US\$118	£105
978-981-126-181-7(ebook)	US\$189	£165



SUSTAINABILITY

Cultured Meat

Producing Meat without Animals

by **Stellan Welin** (*Linköping University, Sweden*) &

Henk P Haagsman (*Utrecht University, The Netherlands*)

This is the first book devoted to cultured meat which is accessible and of interest to both experts and the general public. It outlines a possible way to maintain some of our meat eating habits with minimal environmental damage.

- This is the first book wholly devoted to cultured meat
- The book aims to convince both the group who are most concerned about animal ethics and the group who are mainly concerned about the environment that cultured meat will be beneficial
- Henk Haagsman has been one of the key figures in the development of the science and technology of cultured meat. Stellan Welin is a philosopher who has studied ethical and social issues of emerging biotechnological and biomedical technologies. Together they bring their expertise to explain the impact of the new food technology in an accessible way

Readership: Scientists and Students in the areas of food science, tissue engineering, environmental studies, conservation/ wilderness studies; Professional: Policy makers in the area of agriculture and philosopher/ ethicists; General Public: anyone caring about future food production, the environment and animal ethics.

200pp	Feb 2024	
978-981-4632-73-7	US\$106	£88
978-981-4632-74-4(ebook)	US\$170	£135

Domain-Specific Bodies of Knowledge in Project Management

Developing a Body of Knowledge for Green Construction Project Management

edited by **Amos Darko** & **Albert P C Chan** (*The Hong Kong Polytechnic University, Hong Kong*)

- A new unique comprehensive body of knowledge for green construction project management
- Theoretically sound, conceptually clear, evidence-based and practically implementable of direct value to multiple stakeholders; practitioners, researchers, teachers, students, administrators and policy-makers

Readership: Project managers, construction professionals, teachers and students who seek to develop core green construction project management knowledge and skills; non-construction professionals moving into green construction project management; researchers looking to develop and enhance theories and propositions driving the success of green construction project management.

600pp	Dec 2023	
978-981-125-141-2	US\$178	£140
978-981-125-142-9(ebook)	US\$285	£230



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Solutions for Future Earth

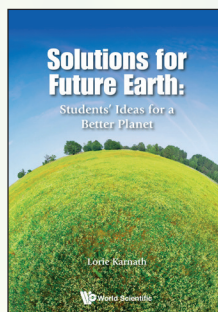
Students' Ideas for a Better Planet

edited by **Lorie Karnath** (*Molecular Frontiers Foundation, Germany*)

This book considers a subject of crucial importance to all, the future of the planet that we live on. As the world's population continues to grow, the ability to sustain and improve the lives of the earth's inhabitants has incurred tremendous costs. The book considers the next generation's perspective on what science might hold for the planet's future, including examples of how science is already positioned in many instances to enhance and help sustain our world.

Readership: Environmentalists, Green/Eco Warriors, General Audience, anyone interested in the fate of Planet Earth.

350pp	Nov 2023	
978-981-120-642-9(pbk)	US\$38	£35
978-981-3279-17-9	US\$88	£75
978-981-120-497-5(ebook)	US\$141	£115



Introduction to Emerging Fields in Materials Sustainability

by **Pankaj Pathak** (*SRM University Andhra Pradesh, India*), **Susmita Sharma** (*National Institute of Technology Meghalaya, India*), **Ramadosh Tamil Selvan** (*National University of Singapore*) & **Seeram Ramakrishna** (*National University of Singapore*)

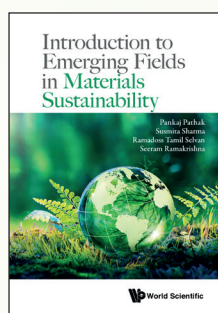
"This excellent new book covers important concepts of sustainability focusing on materials and their waste streams. The impressive team of authors use their insight to explore water management, food, waste management, plastics, electronics, and construction sectors, complementing this with a general introduction to the basic concepts of sustainability and the role of different materials. The materials sector is extremely dynamic and is providing a pipeline of new and novel solutions to meet mankind's needs in imaginative but sustainable ways. These future trends are covered and should allow the readers to develop their own opinions on how society can seek carbon neutrality whilst continuing to meet its demands for products, services, and infrastructure."

Paul Hogg

Professor, Royal Holloway University of London, UK

Readership: Undergraduate and graduate students enrolled in Environmental Science/Chemistry/Economics/Engineering, Material Science, Engineering and Business School. Emerging entrepreneurs, academics/researchers, industry professionals, and companies working on sustainable development and/or waste management will also be interested.

200pp	Nov 2023	
978-981-124-764-4	US\$78	£70
978-981-124-765-1(ebook)	US\$125	£100



A Guide to Planning Ecological Townships

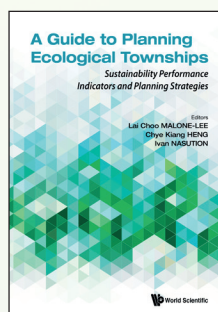
Sustainability Performance Indicators and Planning Strategies

edited by **Lai Choo Malone-Lee**, **Chye Kiang Heng** & **Ivan Nasution** (*National University of Singapore*)

- No other comprehensive guidebook on sustainability indicators to support planning and design of ecological townships
- Contains charts and tables of quantitative indicators and qualitative parameters
- Illustrative studies with master planning and concept layouts in full colour

Readership: Practising planners, architects, design consultants, developers and policy makers as well as academics, researchers and students would find this book useful.

250pp	Dec 2023	
978-981-4733-53-3	US\$82	£68
978-981-4733-54-0(ebook)	US\$131	£105



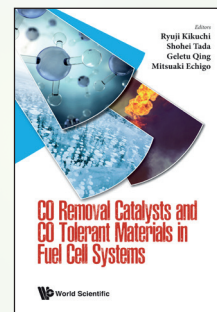
CO Removal Catalysts and CO Tolerant Materials in Fuel Cell Systems

edited by **Ryuji Kikuchi** (*The University of Tokyo, Japan*), **Shohei Tada** (*Seikei University, Japan*), **Geletu Qing** (*Michigan State University, USA*) & **Mitsuaki Echigo** (*Osaka Gas Co., Ltd, Japan*)

This book analyses the vast existing research on CO and CO₂; methanation to find key issues to perform CO methanation selectively and demonstrates the process experimentally in an actual reactor scale. It also offers a focus on a new deep CO removal process in polymer electrolyte fuel cells (PEFCs), including selective CO methanation catalysts and reactors, along with conventional CO abatement processes such as water gas shift and preferential oxidation of CO (PROX). In addition, related CO removal techniques and current fuel cell systems are presented. The book is ideal for graduate students, fuel cell researchers, chemical engineers and chemists with an interest in the field.

Readership: Catalyst researchers, chemical engineer, and chemist; advanced undergraduates and graduate students interested in hydrogen production and fuel cell.

200pp	Dec 2023	
978-1-78634-502-8	US\$98	£86
978-1-78634-503-5(ebook)	US\$157	£125



Materials and Energy - Vol 14

Carbon Dioxide Capture and Storage

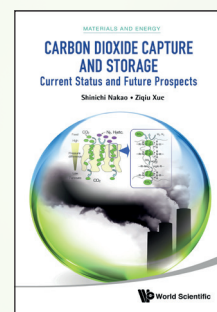
Current Status and Future Prospects

by **Shinichi Nakao** (*Research Institute of Innovative Technology for the Earth (RITE), Japan*), **Ziqiu Xue** (*Research Institute of Innovative Technology for the Earth (RITE), Japan*)

This book consists of two parts of capture and storage. The capture part introduces the main carbon dioxide capture technologies: Absorption, adsorption and membrane. The chapter of chemical absorption shows the research results of carbon dioxide capture using novel aqueous amine solutions. Amine-modified solid sorbents and hydrophobic adsorbents are introduced in the adsorption chapter. "Molecular gate membrane" developed by RITE (Research Institute of Innovative Technology for the Earth) is described with the latest research results. Such information is valuable and accelerates the technology progress.

Readership: Academics, professionals and graduate students in climate change and earth sciences.

350pp	Dec 2023	
978-981-4612-64-7	US\$138	£115
978-981-4612-65-4(ebook)	US\$221	£175



Stationarity

A Gentle Introduction

by **Ramesh S V Teegavarapu** (*Florida Atlantic University, USA*) & **Priyank J Sharma** (*Indian Institute of Technology Indore, India*)

This unique compendium focuses on the use and applications of the state-of-the-art exploratory data analysis and statistical methods to understand the concept of stationarity and assessment based on hydroclimatic data. Stationarity assessment is the key for hydrologic design, particularly in the context of changing climate. The comprehensive text presents a thorough discussion of the parametric, unit root and non-parametric methods adopted for stationarity assessment with their vivid practical examples, issues and implications.

Readership: Researchers, professionals, academics, and graduate students in hydrology, climate change and climatology.

300pp	Oct 2023	
978-981-125-540-3	US\$108	£85
978-981-125-541-0(ebook)	US\$173	£140

Analysis: Historical Cases in Chemistry - Vol 1

Green Chemistry Avant La Lettre

Pine Institute and Resin Chemistry in Aquitaine (1900 – 1970)

by **Marcin Krasnodębski** (*Polish Academy of Sciences, Poland*)

This book not only explains the success of the material itself but also of the scientific-industrial network that made it possible to exploit it sustainably over many decades. Did the Pine Institute find a recipe for making the future more sustainable in the post-oil world? It carefully examines its organisational features, relations with the local economy, as well as the core elements of resin chemistry as an independent discipline prefiguring sustainable chemistry of today.

Readership: Undergraduate, graduate students and researchers of resin chemistry. Historians, teachers and general public interested in the topic.

350pp	Oct 2023
978-981-125-285-3	US\$118 £95
978-981-125-286-0(ebook)	US\$189 £150

Transformations in Banking, Finance and Regulation

Handbook of Environmental and Green Finance

Towards a Sustainable Future

edited by **Sabri Boubaker** (*EM Normandie Business School, France & Swansea University, UK*) & **Thai-Ha Le** (*VinFuture Foundation, Vietnam*)

Handbook of Environmental and Green Finance contains conceptual, empirical, and policy papers, using quantitative and qualitative methods alike, that provide an insightful and timely read for researchers, investors, and policymakers interested in sustainable finance, development finance, and alternative finance to combat climate change. Throughout this book, readers are offered a global analysis of the current state of the sustainable finance sector and provided with potential solutions to addressing obstacles in this field.

Readership: Academic libraries, students (undergraduate, graduate, and post-graduate), and practitioners and policymakers (financial analysts, financial institutions, rating agencies, lawyers, regulators, international organizations, etc.).

476pp	Sep 2003
978-1-80061-444-4	US\$158 £140
978-1-80061-445-1(ebook)	US\$253 £220

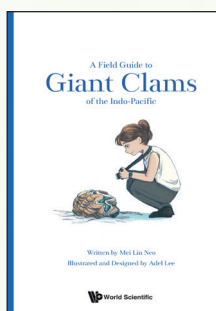
A Field Guide to Giant Clams of the Indo-Pacific

by **Mei Lin Neo** (*National University of Singapore*)

In this book, the author introduces the readers to the giant clams, which are the world's largest living marine bivalves with shells growing up to over one metre in length. The book gives a comprehensive overview of the giant clam's biology, taxonomy and systematics, ecological and cultural significance, threats and challenges, and conservation solutions. The highlight of this book is detailed descriptions of all 12 known giant clam species accompanied by accurate biological hand-drawn illustrations that are useful for field identification. The book also includes other useful natural history information that can spur the reader's interest in these magnificent animals.

Readership: Primary target audience: Academic researchers and conservation managers working on the giant clams, as the information in the book will allow them to better understand the organisms for further conservation and management. The book will also be of interest to the recreational scuba divers and aquarium hobbyists as these two groups of audience would often encounter these animals. The book can further serve as a reference book in libraries for general readers to gain general knowledge of marine wildlife. Secondary market: General public, students/schools, government agencies, nature guides, Tourists.

120pp	Sep 2023
978-981-127-417-6	US\$78 £70
978-981-127-418-3(ebook)	US\$125 £110



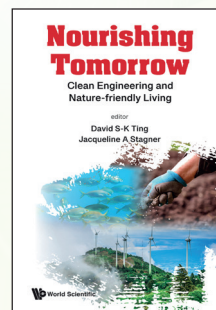
Nourishing Tomorrow Clean Engineering and Nature-friendly Living

edited by **David S-K Ting & Jacqueline A Stagne** (*University of Windsor, Canada*)

In this book, the theme of building environments in which life — human and non-human — can co-exist, grow, and thrive in, is explored from multiple aspects. From agriculture and food security to drinking water, energy generation, energy storage, waste management and treatment, to building for and encouraging biodiversity in marinas, to establishing resilient communities that can recover quickly from both manmade and natural disasters.

Readership: Research/(post)graduate students; research scientists, engineers, and architects who are passionate about nourishing tomorrow.

340pp	Apr 2023
978-981-126-436-8	US\$108 £95
978-981-126-437-5(ebook)	US\$173 £150



Food Waste Valorisation

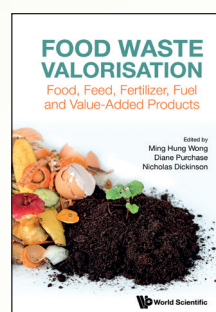
Food, Feed, Fertilizer, Fuel and Value-Added Products

edited by **Ming Hun Wong** (*The Education University of Hong Kong, China*), **Diane Purchase** (*Middlesex University, UK*) & **Nicholas Dickinson** (*Lincoln University, New Zealand*)

The current reference provides a collection of contemporary future-focussed reviews from invited international experts in the field, who were considered by the editors to be involved in some of the most innovative and exciting possibilities for food waste management. The eighteen chapters are concerned with critical aspects of treating food waste as a resource, particularly by converting food waste into food, feed, fertilizer, fuel, and other value-added products

Readership: Academics, postgraduate researchers, scientists and businesses engage in the areas of sustainability, waste valorisation and biocircular economy.

548pp	May 2023
978-1-80061-288-4	US\$158 £125
978-1-80061-289-1(ebook)	US\$253 £200



World Scientific Lecture Notes in Economics and Policy - Vol 16

Environmental and Resource Economics

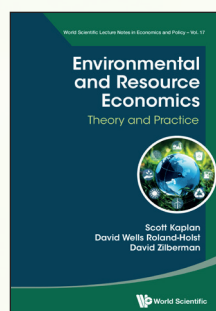
Theory and Practice

by **Scott Kaplan** (*United States Naval Academy, USA*), **David Wells Roland-Holst** (*University of California at Berkeley, USA*) & **David Zilberman** (*University of California, Berkeley, USA*)

- The book can be used in a general microeconomics course, environmental and resource economics courses, or other more specialized environmentally-focused courses
- The book has unique material on issues of innovation, supply chain, the bioeconomy, pest-control, and the intersection of the environment with the modern economy

Readership: Advanced undergraduate and master's degree students, as well as practitioners in the fields of environmental science and environmental economics. Those taking general microeconomics courses, environmental and resource economics courses, or other more specialized environmentally-themed courses. Environmental policymakers in research institutions, like Resources for the Future, Nature Conservancy, and the Environmental Protection Agency in the US, and parallel institutions abroad.

300pp	May 2023
978-981-127-287-5(pbk)	US\$48 £40
978-981-127-219-6	US\$108 £95
978-981-127-220-2(ebook)	US\$173 £150



Activated Sludge

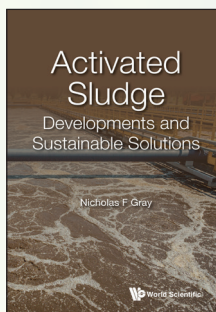
Developments and Sustainable Solutions
by **Nicholas F Gray** (Trinity College, University of Dublin, Ireland)

The book details current operation and design with special emphasis on the biological aspects of the process. From the microbial kinetics to the fascinating process of floc formation and development, the book explores the development of our understanding of the process looking at new sustainable designs, including biological nutrient removal and new aeration systems. Sludge separation problems and control options are explained, with a trouble-shooting guide to non-bulking problems. Environmental issues including noise, odor, aerosols, micro-plastics and nanoparticles are all reviewed, as is pathogen removal and the problem of antibiotic resistant genes and bacteria.

Readership: Environmental engineers and scientists at all levels who wish to find out more about biological wastewater treatment and activated sludge processes, how they work and are operated.

628pp
978-1-80061-387-4
978-1-80061-388-1(ebook)

Apr 2023
US\$168 £150
US\$269 £235



Trends in Aquatic Systems - Vol 1

Plastic Pollution in the Global Ocean

edited by **Alice A Horton** (National Oceanography Center, UK)

This book brings together a collection of chapters written by world-leading experts in environmental plastic pollution inputs, fate, effects and solutions. It provides an accessible overview of the current scientific understanding, future implications and key considerations for the management and mitigation of plastic waste within the global ocean.

Readership: Recommended for undergraduate and postgraduate students in biology, chemistry, physics, environmental science, ecology, geography, earth sciences. Also useful for postgraduates through to professors and academic researchers.

412pp
978-981-125-910-4
978-981-125-911-1(ebook)

Jan 2023
US\$148 £130
US\$237 £210



Sustainability for Beginners

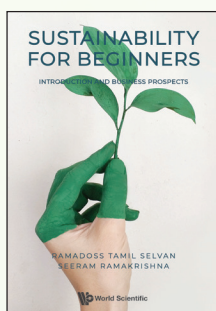
Introduction and Business Prospects
by **Ramados Tamil Selvan & Seeram Ramakrishna** (National University of Singapore)

This book provides a basic introduction to Sustainability & Sustainable Developments, integrated with current business models and future business prospects. In 10 chapters, the authors cover a wide array of topics comprehensively, in an accessible style of language that will appeal to the uninitiated. Many eye-catching self-illustrated artworks, coupled with in-depth analyses of numerous case studies, allow the reader to grasp the theoretical concepts with ease. Multiple-choice exercises at the end of every chapter (with answers provided) further aid readers in verifying their own understanding.

Readership: The book primarily targets undergraduate and graduate students enrolled in Business schools and related majors such as Economics, Environmental Science, Material Science, and Engineering. Emerging entrepreneurs, higher academics, industry professionals working in investment and financial sectors, as well as start-ups will also be interested.

256pp
978-981-124-316-5(pbk)
978-981-124-193-2
978-981-124-194-9(ebook)

Sep 2022
US\$48 £40
US\$98 £80
US\$157 £125



RESEARCH

Navigating in a Pathogenic World

edited by **Lorie Karnath** (SAB Molecular Frontiers Foundation, Germany)

- The book provides perspectives from many of the top scientists in their fields
- It also offers insight into new breakthroughs in combatting the current pandemic and future disease
- The combination of these varied approaches offer a unique consideration of the current challenges that the world now faces as well as for those that lie ahead

Readership: Researchers in the field of molecular biology/genetics/nanoscience/cosmology/neuroscience/structural biology/biological, organic and water chemistry; climatologists; general public interested in the transformative areas of science.

320pp
978-981-124-306-6
978-981-124-307-3(ebook)

Dec 2023
US\$118 £105
US\$189 £150

Raman Spectroscopy in Human Health and Biomedicine

edited by **Hidetoshi Sato** (Kwansei Gakuin University, Japan), **Jürgen Popp** (Friedrich-Schiller University Jena, Germany), **Bayden R Wood** (Monash University, Australia) & **Yukihiro Ozaki** (Kwansei Gakuin University, Japan)

"There is every reason to expect that Raman spectroscopy will revolutionize medical diagnostics making it universal, accurate, easy, and non-invasive. The Editors of the book are top experts in the field, and the content is well thought and appropriate."



Igor K Lednev FRSC
SUNY Distinguished Professor, University at Albany, USA

Readership: Academics, researchers, lecturers, and graduate students in universities and institutes in spectroscopy, biomedical engineering, life sciences, biotechnology, biology, medicine, chemistry, applied physics, food science, pharmaceutical science and environmental science. This book may be used as a textbook for graduate courses and seminars. Scientists and engineers in biomedical and life science-related industries will also be interested.

500pp
978-981-126-460-3
978-981-126-461-0(ebook)

Jul 2023
US\$158 £140
US\$253 £220

Enigma of the Skies

Unveiling the Secrets of Auroras
by **Yohsuke Kamide** (Rikubetsu Space and Earth Science Museum, Japan & Nagoya University, Japan) & **Yoshi Otsuka** (Nanook Aurora Tours, Canada)

Edited by: **Yusuke Ebihara** (Kyoto University, Japan)

Enigma of the Skies is a joint endeavor by a scientist and a photographer to present to readers everything there is to know about auroras in an easy-to-understand matter. It explains the phenomena and describes how to predict when auroras occur using simple physics alongside a collection of beautiful photos taken both from Earth and from space.

- Contains original photos taken from Earth and from space
- Explains the scientific aspects at an easy-to-read level
- Includes an artistic/humanities perspective of auroras

Readership: General readers and tourists interested in auroras.

160pp
978-981-123-039-4(pbk)
978-981-122-877-3
978-981-122-878-0(ebook)

Oct 2022
US\$38 £35
US\$88 £75
US\$141 £125



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Journal of Environmental Assessment Policy and Management (JEAPM)

<https://www.worldscientific.com/jeapm>



Editor-in-Chief: Farhad Taghizadeh Hesary
(Tokai University, Japan)

An interdisciplinary, peer reviewed, international journal covering policy and decision-making relating to environmental assessment (EA) in the broadest sense. Uniquely, its specific aim is to explore the horizontal interactions between assessment and aspects of environmental management and decision-making, as well as the vertical interactions within the broad field of impact assessment. Ultimately, the journal aims at identifying comprehensive approaches to environmental improvement involving both qualitative and quantitative information. As the concepts associated with sustainable development mature, links between environmental assessment and management systems become all the more essential. The focus of the journal is on policy, procedures and law covering project and policy formulation, development and implementation, public participation and the institutional basis for EA. The journal aims to provide a forum for imaginative and creative thinking around the theoretical and empirical foundations of environmental assessment and management.

Abstracting/Indexing: Academic OneFile | Baidu | Business Source Complete | Biological Abstracts | BIOSIS Previews | Biomedical Reference Collection | CAB Abstracts | CNKI | CnpLINKer | Crossref | CSA Human Population and the Environment Abstracts | CSA Pollution Abstracts | CSA Selected Water Resources Abstracts | CSA Toxicology Abstracts | Dimensions | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Environmental Abstracts (CSA) | Environment Index | Environmental Studies And Policy Collection | ExLibris Primo Central | Geobase | Google Scholar | GreenFILE | GREENR - Global Reference on the Environment, Energy, and Natural Resources | International Bibliography of the Social Sciences (IBSS) | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | Public Affairs Index (Ebsco) | RePERC | Scopus | The Summon® Service | WanFang Data.

International Journal of Ocean and Coastal Engineering (IJOCE)

<https://www.worldscientific.com/ijoce>



Advisors:

Chiang C. Mei (MIT, USA)

Philip L.-F. Liu (National University of Singapore and Cornell University, USA)

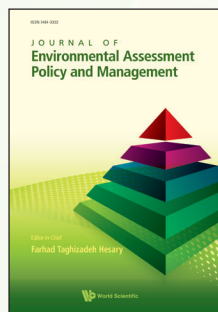
Editors-in-Chief:

Lev Shemer (Tel Aviv University, Israel)

Xiping Yu (Tsinghua University, China)

The scope of this journal encompasses experimental, computational, and theoretical aspects of ocean and coastal engineering, as well as closely-related subjects and meaningful applications, whose composition will evolve continuously to respond to emerging new areas and directions in modern science, engineering and technology.

Abstracting/Indexing: Baidu | CNKI Scholar | CnpLINKer | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | Oceanic Abstracts (ProQuest) | ProQuest Civil Engineering Abstracts | ProQuest Environmental Science Index | ProQuest Natural Science Collection (Earth, Atmospheric & Aquatic Science Database) | ProQuest Technology Collection (Engineering Database) | The Summon® Service | WanFang Data.



Journal of Earthquake and Tsunami (JET)

<https://www.worldscientific.com/jet>



Editors-in-Chief

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National University of Singapore, Singapore)

Zhenhua Huang

(School of Ocean and Earth Science and Technology,
University of Hawaii at Manoa)

Naser Khaji

(Graduate School of Advanced Science and Engineering,
Hiroshima University)

This journal provides a common forum for scientists and engineers working in the areas of earthquakes and tsunamis to communicate and interact with one another and thereby enhance the opportunities for such cross-fertilization of ideas. The Journal publishes original papers pertaining to state-of-the-art research and development in Geological and Seismological Setting; Ground Motion, Site and Building Response; Tsunami Generation, Propagation, Damage and Mitigation, as well as Education and Risk Management following an earthquake or a tsunami.

Abstracting/Indexing: Academic OneFile | Baidu | CNKI Scholar | CnpLINKer | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Geobase | Google Scholar | Environmental Studies And Policy Collection | J-Gate | Journal Citation Reports/Science Edition | Naver | National Science and Technology Libraries (NSTL) | OCLC WorldCat® | ProQuest Environmental Science Index | ProQuest Meteorological & Geostrophysical Abstracts | ProQuest Technology Collection (Engineering Database) | Science Citation Index Expanded | Scopus | The Summon® Service.

International Journal of Big Data Mining for Global Warming (Ijbdmgw)

<https://www.worldscientific.com/ijbdmgw>



Editors-in-Chief

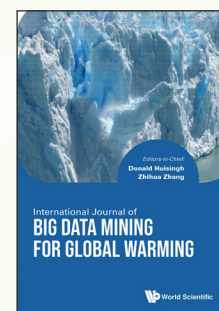
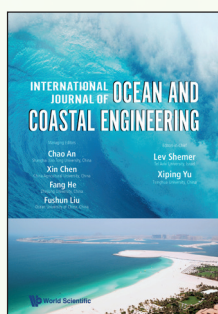
Donald Huisingh (University of Tennessee,
Knoxville, USA)

Zhihua Zhang (Beijing Normal University, China)

Present and future global warming research must be increasingly based on big datasets at terabyte and exabyte scales from diverse sources (e.g. climate, ocean, economy, energy, ecosystem dynamics, industry, agriculture, environment, public's attitude/knowledge surveys). The "International Journal of Big Data Mining for Global Warming" is an inter-disciplinary journal dedicated to the publication of high-quality research articles, review articles, letters, case studies and book reviews in all aspects of global warming through traditional mining methods (statistical, spectral, numerical, simulating, LCA, 3E, etc.) and non-traditional mining methods (neural networks, deep learning, cloud computing, etc.) of these big datasets.

Topics to be covered: • Monitoring, diagnosis, and predictions of global warming trends and their impacts • Applications of artificial neural networks and deep learning in weather, climate and disaster predictions • Data-driven ecological/environmental impact assessments within the context of global warming impacts & others.

Abstracting/Indexing: Baidu | CNKI | CnpLINKer | CrossRef | Dimensions | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | The Summon® Service.



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Climate Change Economics (CCE)

<https://www.worldscientific.com/cce>



Editor-in-Chief

Robert Mendelsohn
(Yale University, USA)

Impact factor
2.3
in the year 2023



Climate Change Economics (CCE) publishes theoretical and empirical papers devoted to analyses of mitigation, adaptation, impacts, and other issues related to the policy and management of greenhouse gases. CCE is specifically devoted to papers in economics although it is understood that authors may need to rely on other fields for important in-sights. The journal is interested in papers examining the issue at every scale from local to global and papers from around the world are encouraged. CCE is also interested in both original research and review papers and welcomes comments discussing previous articles.

Abstracting/Indexing: ABDC Journal Quality List by Australian Business Deans Council | Academic OneFile | Academic Journal Guide by Chartered Association of Business Schools | Baidu | CAB Abstracts | CNKI Scholar | CnpLINKer | CrossRef | Current Contents® Social and Behavioral Sciences | Dimensions | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | EconLit | Environmental Index (EBSCO) | Environmental Studies And Policy Collection (Gale) | ExLibris Primo Central | FMS Journal Rating Guide (Federation of Management Societies of China) | Google Scholar | GREENR - Global Reference on the Environment, Energy, and Natural Resources | J-Gate | Journal Citation Reports/Social Sciences Edition | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Natural Science Collection (Agricultural & Environment Science Database) | REAXYS Medicinal Chemistry (selected articles) | RePEC (Research Papers in Economics) | Social Sciences Citation Index | Scopus | The Summon® Service.

Water Economics and Policy (WEP)

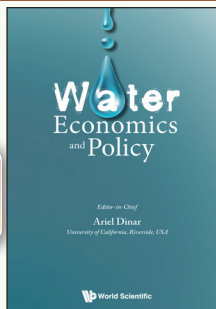
<https://www.worldscientific.com/wep>



Editor-in-Chief

Ariel Dinar
(University of California, USA)

Impact factor
1.1
in the year 2023



Water resources management and other water-related decisions and policies are frequently guided by economic dimensions. Economic considerations, including efficiency, equity, production, allocation, and pollution, have expanded as water resources have become scarcer both in terms of quantity and quality. While economic analyses applied to the water sector are useful and educational, their policy implications are less obvious for guiding policymakers. *Water Economics and Policy* (WEP) will address the economic-policy interaction by publishing highly technical water economics research with clear relevance for policy. WEP will aim to target a wide range of economic questions at local, regional, national and international levels. It will accommodate work that is focused on specific sectors (such as urban, hydropower, irrigation, and environment) as well as work that is inter-sectoral in nature.

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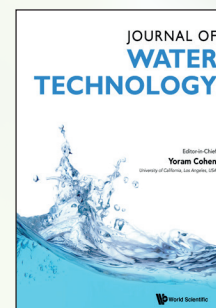
Journal of Water Technology (JOWT)

<https://www.worldscientific.com/jowt>



Editor-in-Chief: Yoram Cohen

(University of California, Los Angeles, USA)



An international, peer-reviewed journal, that aims to provide a platform for the dissemination of high-quality research and innovations related to the technology and management of water resources. The burden on freshwater resources is increasing due to the impacts of global climate change, population growth and rising demand from the domestic sector, industry and intensive agriculture. Excessive withdrawals from aquifers and freshwater bodies are rapidly depleting freshwater resources and, therefore, developing a diversified water portfolio along with distributed water treatment and desalination is critical for meeting water needs across the globe. The path to water sustainability is complex, since water, energy, and food are inextricably linked. As such, there can be many different approaches to water technology. It is acknowledged that the viability of various technologies, for deployment beyond the research environment, will require considerations of environmental, economic and policy issues, particularly regarding the growing efforts in water reuse, seawater desalination and upgrading of impaired groundwater resources. Moreover, it is critical to address the growing need for water treatment/purification/desalination systems are increasingly being developed with the objective of fit-for-purpose applications. Given the above challenges, and the need to progress toward sustainable and economically realizable water supplies. JOWT welcomes high-quality scientific papers that address (but are not limited to) the following topics: • Fundamental science and engineering with real-world applications to improvements in water supply, production and reuse • Improving water treatment, purification and desalination technologies • Advances relating to recycled water, brackish inland water, industrial process water, produced water and agricultural water • Process and operational design to improve system resilience and robustness • Sustainable water resources – energy optimization, cost-effective solutions • Material science advances that contribute to improvement of water technologies • Intelligent water systems driven by AI, water systems cyberinfrastructure and Big Data • Circular economy in relation to water sustainability • Operational security of water systems • Handling of process residual streams • Multi-community and cost-effective shared solutions.

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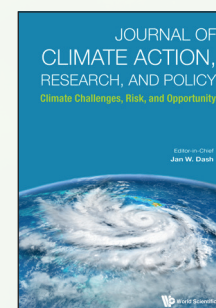
Journal of Climate Action, Research, and Policy (JOCARP)

Addressing Climate Challenges, Risk, and Opportunity

<https://www.worldscientific.com/jocarp>



Editor-in-Chief: Jan W. Dash (Editor, *World Scientific Encyclopedia of Climate Change*)



JOCARP's vision is a pioneering open access journal, with the unique focus of providing solid science-based and action-oriented resources catalyzing the implementation of more urgent, substantial, and pivotal climate action solutions by business of all types, government at all levels, academia, and non-governmental organizations (NGOs).

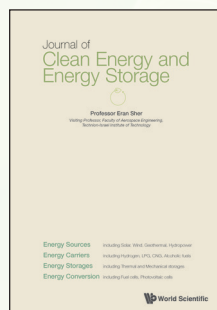
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Journal of Clean Energy and Energy Storage (JOCEES)

<https://www.worldscientific.com/jocees>



Editor-in-Chief: Eran Sher
(Technion-Israel Institute of Technology)

Journal of Clean Energy and Energy Storage provides a unique platform for exchanging knowledge, innovative ideas, research, and development in the areas of clean energy conversion and energy storage. The scope of the Journal includes analysis and optimization of clean energy processes, sustainable energy systems, and mitigation of environmental pollutants, with a focus on engineering applications. The journal publishes high-quality original manuscripts, review articles, vision articles, and short communications. The Journal coverage ranges from innovative technologies of clean renewable energy to energy storage issues, its impact on the environment, and economic assessments of clean energy projects. Critical debates related to these issues are encouraged and welcome.

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Journal of Urban Futures (JUF)

<https://www.worldscientific.com/juf>



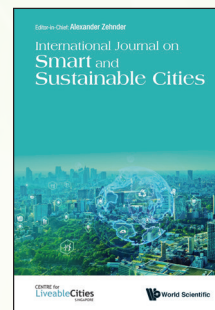
Editors-in-Chief: Ursula Eicker (Concordia University, Quebec, Canada) & **Peter Marcotullio** (Hunter College, City Univ. of New York, USA)

The Journal of Urban Futures aims to encourage substantive research and generate knowledge for building sustainable urban futures, the backbone of a sustainable planet. It welcomes new knowledge about projecting, forecasting and backcasting urban sustainable development in individual cities and within urbanization processes. The objectives of the journal are to highlight multi-level research from the neighborhood to the urban and global scale that addresses the future of livable, sustainable and resilient cities. Fundamental to the urban transformation is the decarbonization challenge to fight climate change, which involves the switch to renewable resources and energy efficiency in all urban infrastructure sectors. With urban planning at the core of the city (infra)structure, subjects can also include technological innovations such as the use of IoT for smarter and sharing urban solutions as well as socio-economic transformations that will influence circular economic activity, financial markets, internalization of externalities in production dynamics, economic and social urban resilience and sustainability.

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International Journal on Smart and Sustainable Cities (IJSSC)

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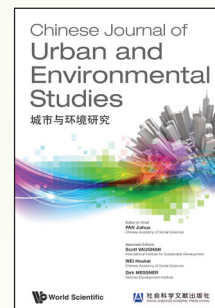
Editor-in-Chief: Alexander Zehnder
(Nanyang Technological University, Singapore)

The *International Journal on Smart and Sustainable Cities* is a biannual publication which aims to provide a platform for global inter-disciplinary research that is at the nexus of urban science and technology, sustainable development, urban planning and resilience, with a focus on the Asia-Pacific region. It accepts high-quality research papers, review papers, insights, and opinions from practitioners and policy makers in, but not limited to, the following topics: i. complexity science for cities ii. application of digital humanities and citizen science to address city challenges iii. the use of emerging technology such as artificial intelligence, big data, advancements in modelling and visualization, cloud computing, and/or Internet of Things to enhance liveability, sustainability, restorative, regenerative and/or wellbeing benefits in urban systems such as food, energy, water, etc. iv. other related topics.

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Chinese Journal of Urban and Environmental Studies (CJUES)

<https://www.worldscientific.com/cjues>



Editor-in-Chief: PAN Jiahua (Institute for Urban and Environmental Studies, Chinese Academy of Social Sciences)

Chinese Journal of Urban and Environmental Studies (CJUES) is a peer-reviewed journal that seeks to publish high-quality research papers and book reviews to explore a wide range of academic and policy concerns of urban and environmental studies.

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