

SMART CITIES

ORIGINAL E-BOOK PACKAGE PRICE | US\$ 3,993 / £ 3,685

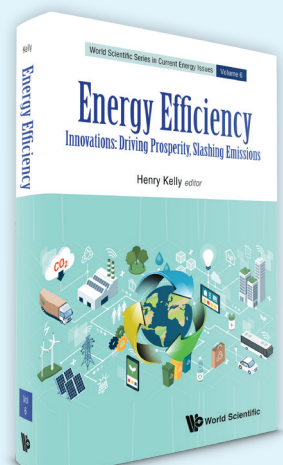
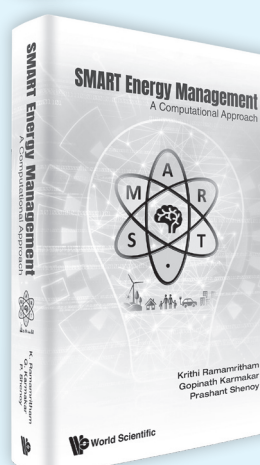
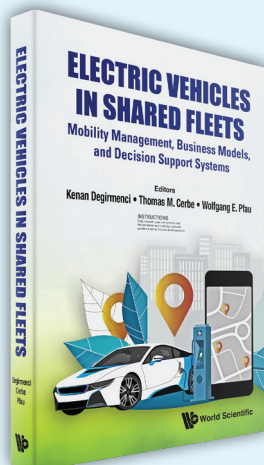
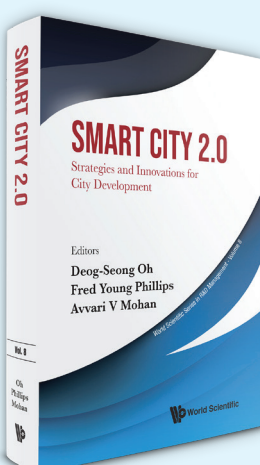
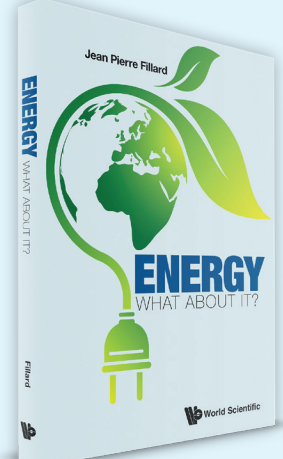
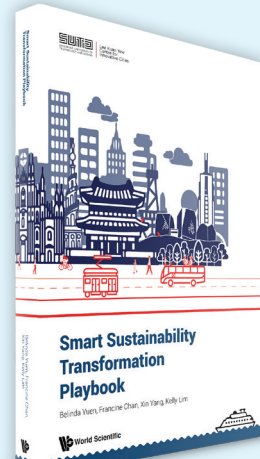
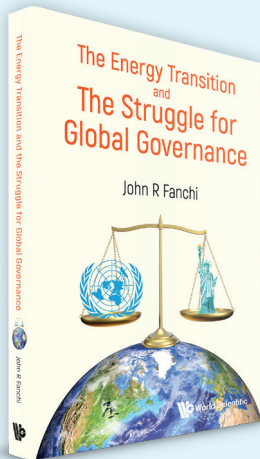
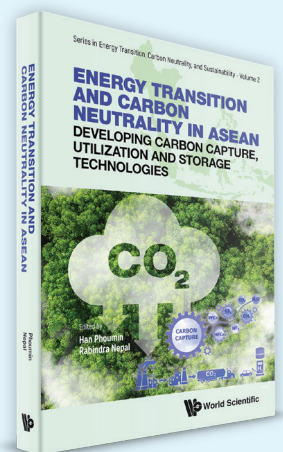
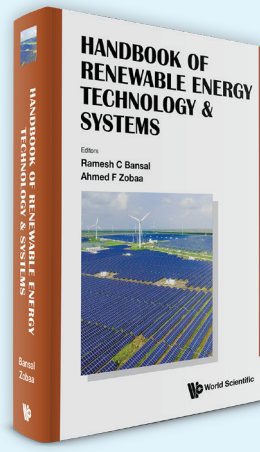
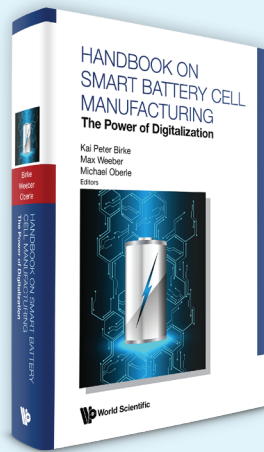
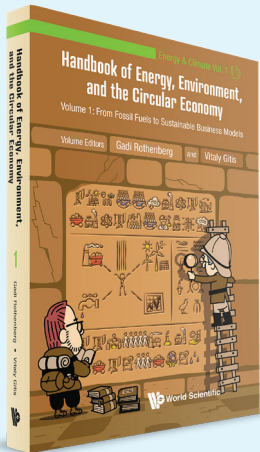
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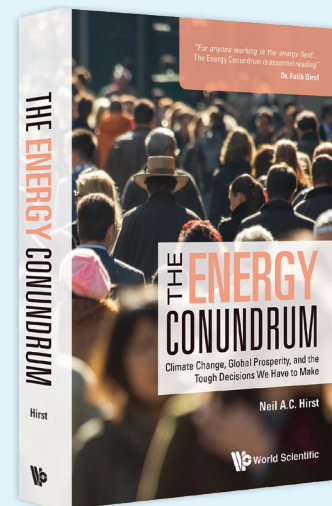
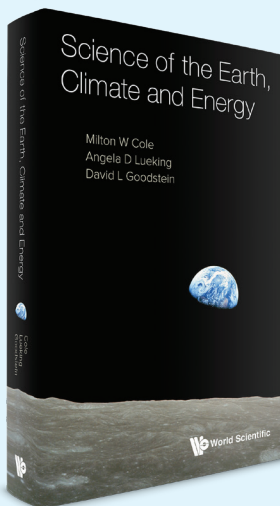
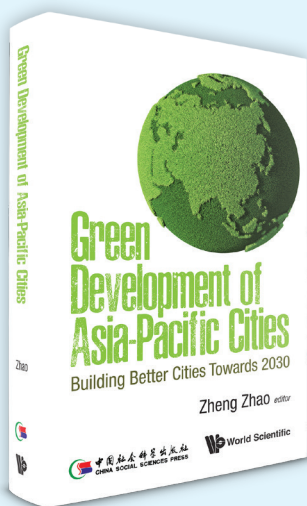
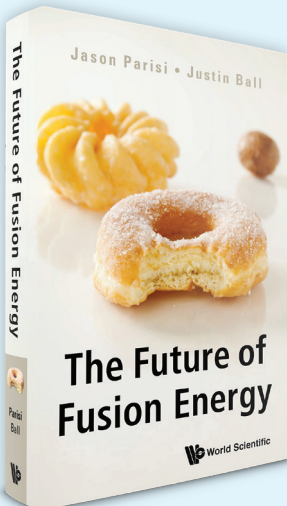
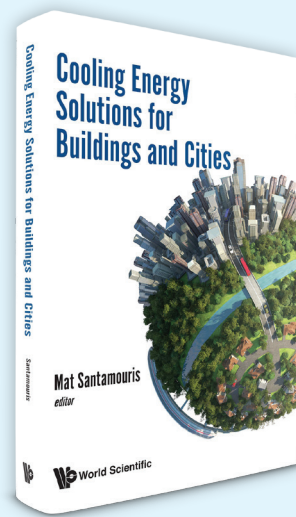
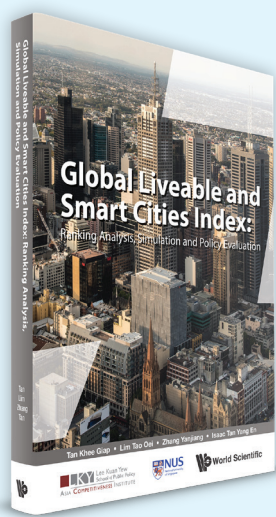
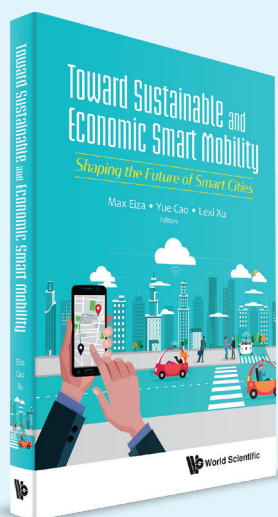


www.worldscientific.com/page/smart-cities



This collection explores a comprehensive suite of cutting-edge innovations that are shaping the future of urban living, delving into the integration of intelligent systems within cities, the evolution of transportation through smart mobility solutions, and the advancements in sustainable energy management.





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HIGHLIGHTS

Toward Sustainable and Economic Smart Mobility

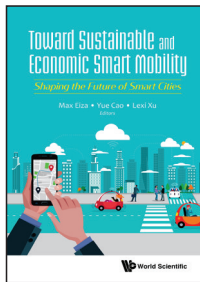
Shaping the Future of Smart Cities

edited by **Max Eiza** (University of Central Lancashire, UK), **Yue Cao** (Lancaster University, UK) & **Lexi Xu** (China Unicom, China & Beijing University of Posts and Telecommunications, China)

During the last decade, developments in smart cars, mobile devices, internet of things and vehicular communications are revolutionizing the future of smart cities. With the rapid integration of these smart devices into our surroundings, we are heading to a new era of a highly connected and environmentally friendly ecosystem. This book offers a unique opportunity for the reader to explore state-of-the-art developments in applications, technologies (e.g., Big Data and artificial intelligence), services and research trends in smart mobility for smart cities.

Readership: Professionals and researchers in the areas of Smart Mobility (e.g., autonomous valet parking, passenger trajectory data, smart traffic control systems), general public interested in technological advances.

212pp Jun 2020
978-1-78634-786-2(ebook) US\$141 £130



Smart City 2.0

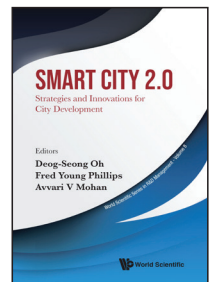
Strategies and Innovations for City Development

edited by **Deog-Seong Oh** (Woosong University, South Korea), **Fred Young Phillips** (University of New Mexico, USA & Tongji University, China) & **Avvari V Mohan** (University of Nottingham Malaysia Campus, Malaysia)

This book offers leading-edge, international perspectives on Smart City 2.0. It offers an overview of the sustainable smart city concept, presents leading experts' latest thinking on strategies for a new generation of smart cities, and showcases eight implementation case studies from seven countries. All chapters are contributed by prominent, leading thinkers and practitioners from a dozen countries, representing both the developed and the developing worlds.

Readership: City planners and city officials, students and researchers in the fields of urban planning and information technology, Information infrastructure consultants and providers and international banks and aid agencies.

420pp Feb 2023
978-981-12-5718-6(ebook) US\$237 £220



Multiple Access Systems for Next-generation Communications

Theory and Practice of Multiple Access Systems

by **Gui-Rong Liu** (University of Cincinnati, USA)

This book provides a thorough examination of traditional and emerging multiple access systems, including Non-Orthogonal Multiple Access (NOMA) and Rate Splitting Multiple Access (RSMA), essential for efficient and low-latency communication in the era of massive Internet of Things. In particular, it discusses their potential role in enhancing 5G networks and their consideration as the standard for 6G multiple access. Geared towards postgraduates and researchers, the book establishes the theoretical groundwork of conventional multiple access systems while delving into practical applications. Through a focus on NOMA and RSMA, it offers valuable insights into cutting-edge wireless communication research and development.

Readership: Communications engineers, networking engineers, information engineers, electronics engineers, vehicular technology engineers.

400pp Jan 2025
978-981-98-0107-7(ebook) US\$253 £237

Series on Computers and Operations Research - Volume 8

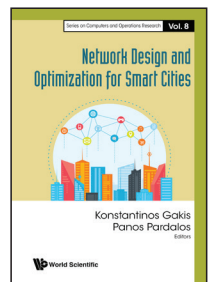
Network Design and Optimization for Smart Cities

edited by **Konstantinos Gakis & Panos Pardalos** (University of Florida, USA)

This comprehensive reference text is a collection of important research findings on the latest developments in network modeling for optimization of smart cities. Such models can be used from outlining the fundamental concepts of urban development to the description and optimization of physical networks, such as power, water or telecommunications. Networks help us understand city economics and various aspects of human interactions within cities with particular applications in quality of life and the flow of people and goods. Finally, the natural environment and even the climate of cities can be modeled and managed as networks.

Readership: Urban planners, researchers, academics, professionals and graduate students in neural networks/networking, systems engineering, electrical & electronic engineering, and energy studies.

404pp May 2017
978-981-320-001-2(ebook) US\$237 £195



SMART Energy Management

A Computational Approach

by **Krithi Ramamritham** (Indian Institute of Technology Bombay, India & Sai University, Chennai, India), **Gopinath Karmakar** (Bhabha Atomic Research Centre Mumbai, India) & **Prashant Shenoy** (University of Massachusetts, Amherst, USA)

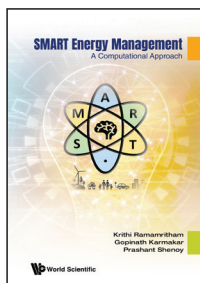
"Overall a good technical treatise on smart energy and must read for students in energy studies and engineering, AI specialists in using IIoTs for designing Building Management Systems and even policy makers. The book is even good for architects planning and designing electrical energy system for industry and cities; data collection through edge devices, energy consumption in building, industrial houses, locality and pushing these data through the cloud for an in-depth assessment of utilization of energy, predicting future energy requirements and energy mix for keeping the greenhouse effect under control."

Bhabha Atomic Research Centre Newsletter

The book also presents computational thinking and techniques such as inferring and learning for energy management. To this end, this book is designed to help understand the recent research trends in energy management, focusing specifically on the efforts to increase energy efficiency of buildings, campuses, and cities.

Readership: Graduate students, researchers and practitioners interested in an overview of recent advances in energy management systems.

312pp Jan 2022
978-981-12-5229-7(ebook) US\$189 £175



Handbook on Smart Battery Cell Manufacturing

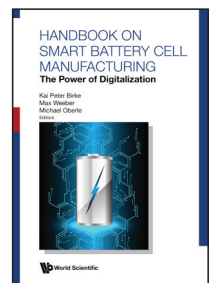
The Power of Digitalization

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)

This handbook bridges the gap between basic electrochemical battery cell research and battery cell production approaches. To run lithium-ion battery gigafactories successfully and sustainably, high-quality battery cell production processes and systems are required. *The Handbook* provides a comprehensive and well-structured analysis of every aspect of the manufacturing process of smart battery cell, including upscaling battery cell production, accompanied by many instructive practical examples of the digitalization of battery products and manufacturing systems using an integrated life cycle perspective.

Readership: Industry Practitioners and Researchers specialising in Battery Cell Manufacturing; Advanced Undergraduate and Postgraduate Students in Electrical, Chemical and Mechanical Engineering and Research pertaining to Batteries.

488pp Jun 2022
978-981-12-4562-6(ebook) US\$253 £235



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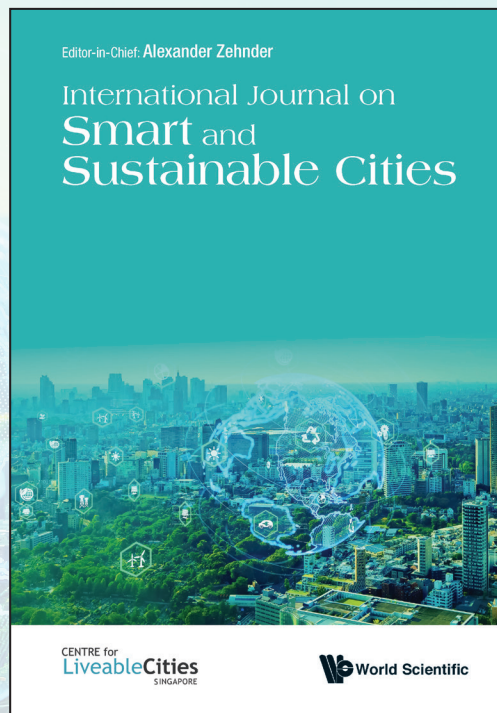
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Types of Papers

To be a convener of theory and practice, IJSSC accepts high-quality:

- Research papers,
- Review papers,
- Insights and/or Opinions pieces and
- Policy notes

from academics, practitioners, and policy makers.

Topics covered

Here are examples of topics that IJSSC will cover:

- 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. the development of human-centric infrastructure in cities
- v. the adoption of multi-stakeholder approach to anticipate and tackle emerging urban challenges
- vi. sustainable development in cities, including aspects of energy, urban greenery, mobility, planning, architecture, real estate, financing, governance, etc
- vii. other related topics

The Journal aims to connect theory and practice, share innovative thoughts and experiences from policymakers, academics, and industry leaders that would be useful to shed light on the practical applications of science and technology in advancing the liveability, and sustainability of cities.

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