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**HIGHLIGHTS**

**Novel Radar Techniques and Applications: Volumes 1 and 2**  
**Editor: Richard Klemm, Fraunhofer Society, Germany**  
This two-volume set available separately or together presents the state-of-the-art in advanced radar, with emphasis on ongoing novel research and development and contributions from an international team of leading radar experts.  
[See page 26 for details]

**Wearable Technologies and Wireless Body Sensor Networks for Healthcare**  
**Editors: Fernando José Velez & Fardin Derogarian Miyandoab, University of Beira Interior, Portugal**  
This book explores the use of sensor devices, smart textiles and other wearable technologies, applied to smart sensing in healthcare, including sport activity and health monitoring.  
[See page 22 for details]

**Leaky Waves in Electromagnetics**  
**Authors: Paolo Burghignoli et al., Sapienza University of Rome, Italy**  
Leaky Waves in Electromagnetics is the first book of its kind to provide a unified treatment of the theory and variety of applications of leaky waves.  
[See page 10 for details]

**Communication, Control and Security for the Smart Grid**  
**Editors: S. M. Muyeen & Saifur Rahman, The Petroleum Institute, UAE & VT Advanced Research Institute, USA**  
This book focuses specifically on security and control aspects of the smart grid and covers topics including smart grid architecture and smart transmission and distribution.  
[See page 12 for details]

**Also Available**

**The Finite-Difference Time-Domain Method for Electromagnetics with MATLAB® Simulations**  
**2nd Edition**  
**Authors: Atef Z. Elsherbeni & Veysel Demir, Colorado School of Mines, USA & Northern Illinois University, USA**  
One of the best books on computational electromagnetics for graduate students and practicing engineering professionals in industry and government.  
[See page 11 for details]

**Nano-CMOS and Post-CMOS Electronics: Devices and Modelling; Circuits and Design**  
**Editors: Saraju P. Mohanty & Ashok Srivastava, University of North Texas, USA & Louisiana State University, USA**  
These two volumes describe the modelling, design, and implementation of nano-scaled CMOS electronics with system level design approaches for these devices.  
[See page 24 for details]

**Student’s Guide to the IET Wiring Regulations**  
An essential guide that will take students through their studies and beyond.  
[See page 37 for details]

**Designer’s Guide to Energy Efficient Electrical Installations**  
An essential guide for designers to meet the new challenges and opportunities presented by Energy Efficiency.  
[See page 37 for details]
Foundations for Model-based Systems Engineering: From Patterns to Models

Authors: Jon Holt et al.
Scarecrow Consultants, UK

The practice of Model-Based Systems Engineering (MBSE) is becoming more widely adopted in industry, academia and commerce, and as the use of modelling matures in the real world, so the need increases for more guidance on how to model effectively and efficiently. This practical book describes a number of systems-level ‘patterns’ that may be applied using the systems modelling language SysML for the development of any number of different applications and as the foundations for a system model.

2016 | Hardback | 416pp | 978-1-78561-050-9
PBPC0140 | £85 • $135

Trusted Platform Modules: Why, when and how to use them

Author: Ariel Segall
Akamai Technologies, USA

Trusted Computing is an emerging technology that aims to make computers safer, less prone to viruses and malware, and therefore better for end users. This practical introduction debunks the myths around Trusted Platform Modules (TPMs) and trusted computing, and focuses on the main uses for TPMs. It includes practical considerations such as when they should and should not be used, and describes the benefits they provide. Using real-world case studies and worked examples, the book explains how TPMs can be used to substantially improve platform and network security.

2016 | Hardback | c.400pp | 978-1-84919-893-6
PBPC0130 | £75 • $120

Planning to write an engineering book in 2017?

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Control of Mechatronic Systems

Authors: Levent Guvenc et al.
Ohio State University, USA

This comprehensive book will introduce advanced students, with only a basic background in control theory, to an array of techniques they can easily implement and use to meet the required performance specifications for their mechatronic applications. Most of the design approaches presented in the book are coded in MATLAB®, compiled by the authors together in a GUI (Graphical User Interface) under the name COMES (Control of Mechatronic Systems toolbox), available in the user contributed material part of the Mathworks MATLAB® website for free download and use with this book.

Due Summer 2017 | Hardback | c.250pp | 978-1-78561-144-5
PBCE1040 | £85 • $135.00

Frequency Weighted Model Order Reduction: Techniques and Applications

Authors: Victor Sreeram et al.
University of Western Australia

The most important factor in model-reduction procedures is approximation error. Sometimes this reduction error is more important over a certain frequency band than other frequencies, and taking account of this has led to the development of frequency weightings in the model-reduction procedure. This book describes this technique and outlines major applications. This will be essential reading for researchers in system control, modelling and signal processing. It will also be of interest to graduates in the field.

Due Summer 2017 | Hardback | c.352pp | 978-1-78561-048-6
PBCE1010 | £105 • $170

Microwave Gauging: Accurate Sensing, Measurement and Monitoring in the Industrial Environment

Author: Nathan Ida
The University of Akron, USA

This book deals with the sensing of sheet products for a variety of properties including dimensions, moisture, electrical properties and curing state among others through the use of open microwave resonators. Starting with an introduction on the ideas and tools needed, the book proceeds through the whole design process, including simulation, experimentation, prototyping and finally testing a complete system. One of the goals of the book is to present a coherent and entirely practical approach to the design of open resonator microwave sensors.

Due Autumn 2017 | Hardback | c.300pp | 978-1-78561-140-7
PBCE1030 | £120 • $190

Modeling and Control of Flexible Robot Manipulators

Authors: M. O. Tokhi & A. K. M. Azad
University of Sheffield, UK & Northern Illinois University, USA

This book provides an account of the progress being made in the field of the modeling and control of lightweight flexible manipulator systems. It covers the main issues in system simulation and modeling, classical and advanced control and soft computing control. For each section it gives an overview of the problem as well as a review of the current thinking. It also looks at algorithm development and evaluation, software development for computer implementation of the algorithm and verification and assessment of the results. References are included for further reading.

Due Spring 2017 | Hardback | c.250pp | 978-1-84919-583-6
PBCE0860 | £95 • $152
Multidimensional Magnetic-Field Microsensors

Authors: Chavdar Roumenin & Siya Lozanova
Bulgarian Academy of Sciences, Sofia, Bulgaria

Magnetic field sensors have made significant advances over the past decade, and have found commercial importance in ubiquitous systems with navigation needs such as mobile phones - every mobile phone now contains a vectorial magnetic field sensor. This book provides a comprehensive introduction to the underlying theory of magnetic-field microsensors, their construction, and current and future applications. Written by leading experts in the development of these sensors, this book is essential reading for academics and advanced students working in sensor design and application.

Due Spring 2017 | Hardback | c.424pp | 978-1-84919-946-9
PBCE0980 | £110 • $170

Organic Sensors: Materials and Applications

Editors: Eduardo Garcia-Breijo et al.
Polytechnic University of Valencia, Spain

This book features contributions from an international panel of leading researchers in organic electronics and their applications as sensors. It reviews the state-of-the-art in the use of organic electronic materials such as organic semiconductors, conducting polymers, chemically functionalised materials, and composite materials as physical, chemical and biomedical sensors in a variety of application settings. This book is cross-disciplinary in its approach and combines electronic engineering, materials science, chemistry, physics and healthcare technology.

Due Winter 2017 | Hardback | c.312pp | 978-1-84919-985-8
PBCE1000 | £105 • $170

RFID Protocol Design and Optimization for the Internet of Things

Author: Alex X. Liu
Michigan State University, USA

RFID systems are a very pervasive and low cost technology used to automatically identify and track tags attached to objects, which contain electronically stored information. RFIDs are used in countless applications such as object tracking, 3D positioning, indoor localization, supply chain management, automotive, inventory control, anti-theft, anti-counterfeit, and access control. In this book, the author aims to demystify complicated RFID protocols and explains in depth the principles, techniques, and practices in designing and optimizing them.

Due Autumn 2017 | Hardback | c.500pp | 978-1-78561-332-6
PBCE1120 | £100 • $160

The Inverted Pendulum: From Theory to New Innovations in Control and Robotics

Editors: Olfa Boubaker & Rafael Iriarte
University of Carthage, Tunisia & National Autonomous University of Mexico, Mexico

The inverted pendulum is a classic problem in dynamics and control theory and is widely used as a benchmark for testing control algorithms. This book provides an overall picture of historical and current developments in nonlinear control theory, based on the simple structure and rich nonlinear model of the inverted pendulum model, and also discusses key applications using different experimental models of this system.

Due Autumn 2017 | Hardback | c.450pp | 978-1-78561-320-3
PBCE1110 | £100 • $160

www.theiet.org/publishing
ContRol, RobotiCs & sensoRs

NEW

Wearable Exoskeleton Systems: Design, Control and Applications
Editors: Shaoping Bai et al.
Aalborg University, Denmark

In this book, the editors and authors report the recent advances and technology breakthroughs in exoskeleton developments. The book will be of interest to engineers and researchers in academia as well as manufacturing companies interested in developing new markets in wearable exoskeleton robotics. Topics covered include mechanism design and control involving close human-robot interaction scenarios, human motion intention detection and support, comfort and ergonomics, and safety regulations for various wearable robot applications.

Due Autumn 2017 | Hardback | c.450pp | 978-1-78561-302-9
PBCE1080 | £100 • $160

NEW

Cyber-Physical System Design with Sensor Networking Technologies
Editors: Sherali Zeadally & Nafaâ Jabeur
University of Kentucky, USA & German University of Technology, Oman

This is the first book in this new area and it uniquely focuses on sensor networks in cyber-physical systems. It has been peer-reviewed by experts in the areas of sensor networks and cyber-physical systems. The book describes how wireless sensor networking technologies can help in establishing and maintaining seamless communications between the physical and cyber systems – acquiring data, pushing data from the physical system to the cyber system, and routing decisions to appliances.

2016 | Hardback | 368pp | 978-1-84919-824-0
PBCE0960 | £85 • $140

Mechatronic Hands: Prosthetic and Robotic Design
Author: Paul H. Chappell
University of Southampton, UK

Gathering the accumulated knowledge on the topic gained at Southampton University over several decades, this book describes the technical design, concepts and characteristics of the main components that go into constructing an artificial hand, whether it is a simple design that does not have a natural appearance or a more complicated design where there are multiple movements of the fingers and thumb. This book is a must-read for students and lecturers in robotics, prosthetics and mechatronics as well as practitioners involved in the design and manufacture of prosthetics.

2016 | Hardback | 192pp | 978-1-78561-154-4
PBCE1050 | £105 • $170

Practical Robotics and Mechatronics: Marine, Space and Medical Applications
Author: Ikuo Yamamoto
Nagasaki University, Japan

This book provides an essential introduction on how to successfully create practical robotics and mechatronics. It is based on the author’s 30 years of experience in robotics development in Mitsubishi Heavy Industries, Ltd., JAMSTEC, and Nagasaki University, and contains many examples of real-world robots from new underwater vehicles, ships, robotic fish and unmanned aviation robotics, to space robotics, and medical robotics.

2016 | Hardback | 168pp | 978-1-84919-968-1
PBCE0990 | £95 • $150

How to order: +44 (0)1438 767328 sales@theiet.org
Recent Trends in Sliding Mode Control
Editors: Leonid Fridman et al.
UNAM, Mexico

This book describes recent advances in the theory, properties, methods and applications of sliding mode control (SMC), including a discussion about the advantages and disadvantages of different SMC algorithms; a new Lyapunov-based approach for design of such controllers; gain adaptation for arbitrary order sliding mode control; new methods for design of arbitrary order sliding mode surfaces; and new applications in air breathing hypersonic vehicles, electropneumatic actuators, wind-energy conversion systems, and control of electrical machines with saturation.

Solved Problems in Dynamical Systems and Control
Authors: Duarte Valério et al.
University of Lisbon, Portugal

This book presents a collection of exercises on dynamical systems, modelling and control. Each topic covered includes a summary of the theoretical background and exercises with solved problems on fractional calculus and simple tools for nonlinear systems. Topics covered include: mathematical models; PID controller synthesis; controller synthesis by pole placement; fractional order systems and controllers and many others. This book is essential reading for advanced students with courses in modelling and control in engineering, applied mathematics, biomathematics and physics.

Analysis and Design of Reset Control Systems
Authors: Yuqian Guo et al.
Central South University, China

This book provides a comprehensive introduction to the theory of reset control. It draws on the authors' own research, and that of others, to explore several new ideas on reset control systems including robust stability, frequency domain analysis, reset control systems with discrete-time reset actions and optimal reset design. It also emphasises applications of reset control systems to high precision positioning systems such as hard disk drive servo systems. This is essential reading for post-graduates, researchers and practitioners working in control theory.

Control-oriented Modelling and Identification: Theory and practice
Editor: Marco Lovera
Politecnico University of Milan, Italy

This comprehensive collection covers the state-of-the-art in control-oriented modelling and identification techniques. With contributions from leading researchers in the subject, it covers the main methods and tools available to develop advanced mathematical models suitable for control system design, including an overview of the problems that can arise during the design process. It also takes a practical look at a variety of applications of advanced modelling and identification techniques.
Robust and Adaptive Model Predictive Control of Nonlinear Systems

Authors: Martin Guay et al.
Queen’s University, Canada

This book offers a novel approach to adaptive control and provides a sound theoretical background to designing robust adaptive control systems with guaranteed transient performance. It focuses on the more typical role of adaptation as a means of coping with uncertainties in the system model. Topics covered include: estimation in adaptive control; performance improvement in adaptive control; and robust adaptive model predictive control for systems with exogeneous disturbances. This is essential reading for academics and advanced students working in control theory and applications.

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Adjoint Sensitivity Analysis of High Frequency Structures with MATLAB®

Author: Mohamed Bakr
McMaster University, Canada

This unique reference is the first to cover the theory of adjoint sensitivity analysis and uses the popular FDTD (finite-difference time-domain) method to show how wideband sensitivities can be efficiently estimated for different types of materials and structures, and includes a variety of MATLAB® examples to help readers absorb the content more easily. Topics covered include a review of FDTD and an introduction to adjoint sensitivity analysis; second-order sensitivity analysis; time-domain responses; and applications to nonlinear and anisotropic materials.

Due Spring 2017 | Hardback | c.256pp | 978-1-61353-213-3 | £95 • $150

Leaky Waves in Electromagnetics

Authors: Paolo Burghignoli et al.
Sapienza University of Rome, Italy

Leaky Waves in Electromagnetics is the first book of its kind to provide a unified treatment of the theory and variety of applications of leaky waves. Topics covered include: the theoretical basis of leaky waves in uniform and periodic structures; applications in radiation and antennas; scattering, metal and dielectric waveguides; planar structures and complex media. This book is a vital resource for academic and research lab engineers in electromagnetics theory, antennas, applied physics and related systems applications.

Due Spring 2017 | Hardback | c.368pp | 978-1-61353-213-3 | £95 • $150

Slotted Waveguide Array Antennas

Authors: Sembiam Rengarajan & Lars Josefsson
California State University, USA & Lars Microwave, Sweden

This is the first comprehensive treatment of slotted waveguide array antennas from an engineering perspective. It provides readers with a thorough foundation in applicable theories as well as hands-on instruction for practical analysis and design of important types of waveguide slot arrays. Slotted Waveguide Array Antennas goes beyond some of the commonly discussed topics and ventures into areas that include: higher order mode coupling and edge effects; performance optimisation in terms of bandwidth and pattern performance and manufacturing tolerances.

Due Spring 2017 | Hardback | c.400pp | 978-1-61353-189-1 | £75 • $125

Scattering of Electromagnetic Waves by Obstacles

Author: Gerhard Kristensson
Lund University, Sweden

The main purpose of Scattering of Electromagnetic Waves by Obstacles is to give a theoretical treatment of the scattering phenomena, and to illustrate numerical computations of some canonical scattering problems for different geometries and materials. The scattering theory is also important in the theory of passive antennas, and this book gives several examples on this topic.

2016 | Hardback | 760pp | 978-1-61353-221-8 | £60 • $100
Higher-order Techniques in Computational Electromagnetics

Authors: Roberto D. Graglia & Andrew F. Peterson
Polytechnic University of Turin, Italy & Georgia Institute of Technology, USA

Higher-order Techniques in Computational Electromagnetics takes a different approach to computational electromagnetics and looks at it from the viewpoint of vector fields and vector currents. It gives a more detailed treatment of vector basis function than is currently available in other books. It also describes the approximation of vector quantities by vector basis functions, explores the error in that representation, and considers various other aspects of the vector approximation problem.

2015 | Hardback | 408pp | 978-1-61353-016-0
SBEW5070 | £47 • $79

Radio Frequency Interference Pocket Guide

Authors: Kenneth Wyatt & Michael Gruber
ARRL Lab, USA

This handy pocket guide to essential radio frequency interference (RFI) is a valuable, pocket-sized reference for radio amateurs and others in the radio communication fields. Designed as a practical, quick reference, the Radio Frequency Interference Pocket Guide collates all the key facts and useful reference materials in one handy place to help the reader to understand basic EM theory, along with specific remediation steps in reducing or eliminating sources of radio interference. Topics covered include: EMC/RFI Fundamentals, EMC design, FCC rules, locating RFI and resolving RFI.

2015 | Spiral | 88pp | 978-1-61353-219-5 (SciTech)
SBEW5230 | £15 • $24.95

The Finite-Difference Time-Domain Method for Electromagnetics with MATLAB® Simulations 2nd Edition

Authors: Atef Z. Elsherbeni & Veysel Demir
Colorado School of Mines, USA & Northern Illinois University, USA

This is one of the best books on computational electromagnetics for graduate students and practicing engineering professionals in industry and government. This latest edition has been expanded to include four entirely new chapters on advanced topics in the mainstream of FDTD practice. In addition to advanced techniques it also includes applications and examples, and some ‘tricks and traps’ of using MATLAB® to achieve them. This second edition has been comprehensively updated and expanded to provide a must-have reference for someone who is performing FDTD research.

2015 | Hardback | 560pp | 978-1-61353-175-4
SBEW5140 | £84 • $131

IET JOURNALS

IET Microwaves, Antennas & Propagation

Editor-in-Chief: Professor Stavros Iezekiel
University of Cyprus, Cyprus

IET Microwaves, Antennas & Propagation comprehensively covers microwave and RF circuits, microwave and millimetre wave amplifiers, oscillators, switches, mixers and other components. This journal is essential reading for researchers, professionals and graduates, in the fields of antennas and propagation, and RF/microwave systems.

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Bifacial Photovoltaics: Technology, Applications and Economics

Editors: Radovan Kopecek & Joris Libal
University of Konstanz & ISC Konstanz, Germany

This title focuses exclusively on bifacial photovoltaics, a topic for which there is a distinct lack of available, structured information and thus meets an increasing need. The book provides an overview of the history, status and future of bifacial PV technology with a focus on crystalline silicon technology, covering the areas of cells, modules, and systems. In addition, topics like energy yield simulations and bankability are addressed.

Due Autumn 2017 | Hardback | c.300pp | 978-1-78561-274-9
PBPO1070 | £100 • $160

Clean Energy Microgrids

Editors: Shin’ya Obara & Jorge Morel
Kitami Institute of Technology, Japan

Microgrids – connecting entities smaller than cities, such as smaller villages or university campuses – are gaining importance. This book describes the latest technology in microgrids and economic, environmental and policy aspects of their implementation, including microgrids for cold regions, and future trends. Topics covered include an overview of clean energy systems; storage systems for microgrids; microgrid reliability and electricity quality and communication network security and privacy. International case studies are included.

Due Spring 2017 | Hardback | c.400pp | 978-1-78561-097-4
PBPO0900 | £120 • $190

Cogeneration: Technologies, Optimization and Implementation

Editor: Christos A. Frangopoulos
National Technical University of Athens, Greece

This book provides an integrated treatment of cogeneration – the simultaneous production of two or more useful forms of energy from the same primary energy source – including a tour of the available technologies and their features, how these systems can be analyzed and optimized (with the formal application of mathematical optimization at three levels - synthesis, design specifications and operation), and implementation issues such as economic, financial, environmental, and legal/regulation aspects. It includes case studies of cogeneration projects implemented in various sectors.

Due Spring 2017 | Hardback | c.360pp | 978-1-78561-055-4
PBPO0870 | £120 • $190

Communication, Control and Security for the Smart Grid

Editors: S. M. Muyeen & Saifur Rahman
The Petroleum Institute, UAE & VT Advanced Research Institute, USA

This book focuses specifically on security and control aspects of the smart grid. It covers various related topics including smart grid architecture; communications and networking features; measuring and sensing devices; and smart transmission and distribution. Particular emphasis is placed on security, reliability, and stability features. Different control aspects of smart grid are also covered. Each chapter includes examples, case studies, simulations and experimental results, making this a practical and essential resource for professional researchers and advanced students alike.

Due Winter 2017 | Hardback | c.400pp | 978-1-78561-142-1
PBPO0950 | £120 • $190
Design of High-Efficiency Integrated AC-DC Convertors

Author: Ke-Horng Chen
National Chiao Tung University, Taiwan

Increased efficiency in power electronic converters of all types and ratings is of considerable interest, not only from the viewpoint of improved thermal management but also from an environmental perspective. This important book describes the advantages and challenges underlying the theory, and applications of high-efficiency AC-DC converters that are built into circuits. Applications covered include PSR battery chargers, high-switching frequency AC-DC converters with WBG devices, and LED lighting designs. Researchers, students and designers working in power electronics, and academics in electrical engineering will find this book invaluable.

Due Spring 2017 | Hardback | c.744pp | 978-1-84919-975-9
PBPO0830 | £105 • $175

Fault Diagnosis of Induction Motors

Authors: Jawad Faiz et al.
University of Tehran, Iran

This book is a comprehensive, structural approach to fault diagnosis strategy, which will allow readers to select the right diagnosis strategy. The most important previously published works are reviewed, and potentials and limits of each approach are deeply discussed. The different fault types, signal processing techniques, and loss characterisation are also addressed in the book. This is essential reading for work with induction motors for transportation and energy.

Due Autumn 2017 | Hardback | c.400pp | 978-1-78561-328-9
PBPO1080 | £100 • $160

Fuzzy Logic Control in Energy Systems with MATLAB®

Author: İsmail Hakkı Altas
Karadeniz Technical University, Turkey

This book is about fuzzy logic control and its applications in managing, controlling and operating electrical energy systems. It aims to convey an understanding of design approaches to fuzzy logic controllers in MATLAB® and MATLAB/Simulink® environments. This book will enable readers to develop their own fuzzy processor library and fuzzy logic toolbox for the particular problems they study. This is an essential text for researchers and practising engineers working in power engineering and advanced students in the topic.

Due Winter 2017 | Hardback | c.400pp | 978-1-78561-107-0
PBPO0910 | £120 • $190

High Voltage Power Network Construction

Author: Keith Harker

This up-to-date and comprehensive work covers the requirements and construction of new assets for high voltage power networks. The book is structured around three components: the specification and implementation of a technical solution; the execution of appropriate quality management system procedural arrangements; and assurance that all duty holders have demonstrated the requisite competencies. It includes modern requirements such as embedding of renewable power generation and covers financial, project management, and environmental aspects.

Due Autumn 2017 | Hardback | c.500pp | tbc
PBPO1100 | £110 • $176
**NEW**

**Hydrogen Production, Separation and Purification for Energy**

Editors: Angelo Basile et al.
ITM-CNR, Italy

Hydrogen production is set to play an increasing role in a modern, clean energy system. It can be produced from clean energy, such as excess solar or wind energy, serving as a storage medium to help mitigate the intermittency of renewables. However, the ways to produce hydrogen to sufficient purity standards need to be developed further and made more efficient and cost effective. This book describes and discusses the current techniques and challenges for producing hydrogen. Researchers, advanced students and practising engineers will find this book of interest.

Due Winter 2017 | Hardback | c.350pp | 978-1-78561-100-1
PBPO0890 | £105 • $165

**NEW**

**Industrial Power Systems with Distributed and Embedded Generation**

Author: Radian Belu
University of Alaska, USA

This book explores supporting technologies that can turn conventional passive electricity delivery networks into the active networks of the future. The focus is on industrial power systems, integrating new, dispersed sources with legacy systems of central generation, as well as allowing new technologies to operate effectively in isolated systems. The book includes systematic coverage of all related aspects and enabling technologies from an introduction on the basics of power systems to microgrid operation, control and protection.

Due Spring 2017 | Hardback | c.400pp | 978-1-78561-152-0
PBPO0960 | £110 • $175

**NEW**

**Introduction to the Smart Grid: Concepts, Technologies and Evolution**

Author: Salman K. Salman
The Robert Gordon University, UK

The concept, evolution and technologies of the Smart Grid are discussed and explained in this comprehensive introduction to the subject. It identifies and discusses the tools required to ensure the interoperability among various digitally-based components of the Smart Grid. Additionally it covers the input of user groups and collaborative efforts within the power industry towards developments of interoperability standards. This book highlights and discusses the necessary tools, drivers and key technologies related to the Smart Grid with examples from ongoing projects.

Due Spring 2017 | Hardback | c.260pp | 978-1-78561-119-3
PBPO0940 | £95 • $150

**NEW**

**Large Scale Grid Integration of Renewable Energy Sources**

Editor: Antonio Moreno-Munoz
University of Córdoba, Spain

This work presents comprehensive coverage of the means to integrate renewable power, namely wind and solar power. It looks at new approaches to meet the challenges, such as increasing interconnection capacity among geographical areas, hybridisation of different distributed energy resources and building up Demand Response capabilities. This book presents an overview of the steps on the way toward 100% clean power, covering approaches like micro-storage and demand response, prosumers and energy communities and including distribution systems and microgrids.

Due Summer 2017 | Hardback | c.300pp | 978-1-78561-162-9
PBPO0980 | £100 • $160
Hydropower helps stabilise fluctuations between demand and supply, with the increase in shares of wind and photovoltaic energy, this role will become more important. This book presents a systematic approach to mathematical modeling of different configurations of hydropower plants, their simulation studies, and performance of controlled systems. It offers a focused critical insight into new trends for hydropower operation and control and addresses the fundamentals and latest concepts, providing the most appropriate solutions for cost-effective and reliable operation.

Due Winter 2017 | Hardback | c.400pp | 978-1-78561-195-7
PBP01000 | £120 • $190

Modern Control of Power Electronics Systems

Authors: Pericle Zanchetta et al.
University of Nottingham, UK

Modern Control of Power Electronics Systems deals with control and modulation of power converters for electrical drives, distributed generation and active power filtering. It covers a wider range of power electronics applications than can be found in comparable books and includes novel power converters like multi-level converters and matrix converters and their own specific pulse-width modulation techniques. It also covers innovative control techniques such as predictive, repetitive and artificial intelligence based control.

Due Spring 2017 | Hardback | c.368pp | 978-1-84919-785-4
PBP00710 | £80 • $140

Periodic Control of Power Electronic Converters

Authors: Frede Blaabjerg et al.
Aalborg University, Denmark

Advanced power electronic converters convert, control and condition electricity. Power converters require control strategies for periodic signal compensation to assure good power quality and stable power system operation. This comprehensive text presents the most recent internal model principle based periodic control technology, which offers the perfect periodic control solution for power electronic conversion. It also provides analysis and synthesis methods for periodic control systems, and practical examples to demonstrate the validity of proposed technology for power converters.

Due Winter 2017 | Hardback | c.256pp | 978-1-84919-932-2
PBP00820 | £90 • $145

Power Electronics Packaging Reliability

Editor: C. Mark Johnson
The University of Nottingham, UK

Unpredictable fluctuating loads and exposure to widely varying environmental conditions (including heat, vibration, humidity and dust) present a particularly challenging environment for power electronics modules. This book describes the technologies involved in power electronic device manufacturing with an emphasis on characterising the key wear-out mechanisms and technologies to increase reliability. This book is a must-read for all engineers involved with electronics or reliable power systems.

Due Autumn 2017 | Hardback | c.400pp | 978-1-78561-252-7
PBP00990 | £120 • $190
NEW

Power Quality in Future Electrical Power Systems

Editors: Ahmed Faheem Zobaa & Shady H. E. Abdel Aleem
Brunel University, UK & Higher Institute of Engineering, Egypt

This book highlights the recent developments in power systems that have led to new challenges in the power quality domain, such as large-scale renewable energy-based generation technologies. It also looks at the challenge of the advance of nonlinear loads, including the associated harmonic distortion and low voltage quality with additional transmission and distribution loss concerns. It highlights the problems, causes and effects, and presents the recent facilities of power conditioners that can effectively solve the problem.

Due Spring 2017 | Hardback | c.400pp | 978-1-78561-123-0
PBPO0920 | £120 • $190

NEW

Surface Passivation of Industrial Crystalline Silicon Solar Cells

Editor: Joachim John
IMEC, Belgium

This timely, comprehensive work on solar cell surface passivation will collect and convey the scientific and technological progress provided by universities, research institutes and companies to implement dielectric passivation layers into the solar cell manufacturing process for c-Si solar cells. With a focus on industrial manufacturing it will comprehensively cover all promising techniques and describe the process from material research to full production implementation of dielectric layers for silicon solar cell passivation.

Due Autumn 2017 | Hardback | c.350pp | 978-1-78561-246-6
PBPO1040 | £110 • $180

NEW

Power Transformer Condition Monitoring and Diagnosis

Editor: Ahmed Abu-Siada
Curtin University, Australia

This must-read book on power transformer monitoring will incorporate current power transformer condition monitoring techniques from principles to practice. Each chapter will cover the fundamentals and theory of the topic, convey techniques to measure relevant parameters, and assess or interpret the results. The book will include factory acceptance tests, receiving end pre-commissioning tests and commissioning tests. It will also include the limitations and challenges, and approaches to overcome these limitations.

Due Autumn 2017 | Hardback | c.300pp | 978-1-78561-254-1
PBPO1040 | £100 • $160

NEW

Synchronized Phasor Measurements for Smart Grids

Editors: M. Jaya Bharata Reddy & D. K. Mohanta
NIT, India & IIT, India

The use of advanced technologies such as Phasor Measurement Units (PMUs) have made it possible to transform the power grid to an intelligent Smart Grid with real-time control and monitoring of the system. This book explores the application of PMUs in power systems, covering topics such as PMUs for improving power system performance; wide area measurement based power network protection; PMUs applications for load estimation and stability; state estimation in the presence of synchronized measurements; and PMUs based wide-area security assessment.

Due Winter 2017 | Hardback | c.300pp | 978-1-78561-011-0
PBPO0970 | £110 • $175

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Due Winter 2017 | Hardback | c.300pp | 978-1-78561-011-0
PBPO0970 | £110 • $175
Advances in Power System Modelling, Control and Stability Analysis

Editor: Federico Milano
University College Dublin, Ireland

This book captures new methodologies and technologies changing the way modern electric power systems are modelled, simulated and operated. Part 1 covers power system modelling and applications of telegrapher equations, power flow analysis, discrete Fourier transformation and stochastic differential equations. Part 2 focuses on power system operation and control, optimal power flow, real-time control and state estimation techniques. Part 3 describes advances in the stability analysis of power systems and covers voltage stability, transient stability, time delays, and limit cycles.

Cogeneration and District Energy Systems: Modelling, Analysis and Optimization

Author: Marc A. Rosen
University of Ontario, Canada

District energy systems can be particularly beneficial when integrated with combined heat and power (CHP) plants. This important book covers district energy and CHP technologies, as well as the systems that combine them. It focuses on modelling, analysis and optimization, of cogeneration-based district energy systems. This comprehensive overview provides an essential resource for engineers and researchers in a broad area including mechanical engineering, chemical engineering, energy engineering, environmental engineering, process engineering and industrial engineering.

Control Circuits in Power Electronics: Practical issues in design and implementation

Editor: Miguel Castilla
Technical University of Catalonia, Spain

Control circuits are a key element in the operation and performance of power electronics converters. This practical guide describes practical issues related to the design and implementation of these control circuits, and is divided into three parts – analogue control circuits, digital control circuits, and new trends in control circuits. Each chapter focuses on the presentation of the state-of-the-art control solutions adopted for that application, including circuit technology, design techniques, and implementation issues.

Cyber-Physical-Social Systems and Constructs in Electric Power Engineering

Editors: Siddharth Suryanarayanan et al.
Colorado State University, USA

Cyber-physical-social systems (CPSS) integrate computing, physical assets and human networks. This book describes state-of-the-art CPSS in electric power systems, including detailed approaches on social constructs which are a critical aspect of the end-user realm, and is divided into the three application areas of the electric grid. This book will be invaluable to academics and research-led professional engineers engaged in cyber-physical social system applications for power engineering.
Methane and Hydrogen for Energy Storage

Editors: David S-K. Ting & Rupp Carriveau
University of Windsor, Canada

Methane and hydrogen are important energy carriers which are relatively clean compared to coal and oil, and are poised to play an important role in replacing these in a modern, low-emission energy system. This book explores some of leading advances in methane and hydrogen storage as well as the interesting link between these two important elements in our evolving energy system mosaic.

2016 | Hardback | 176pp | 978-1-78561-193-3
PBPO1010 | £90 • $145

Power Distribution Automation

Editor: Biswarup Das
Indian Institute of Technology, India

Utilities around the world are under increasing pressure to provide reliable and good quality power supply to their retail customers, and to reduce their operational costs. This comprehensive book provides a detailed description of all the major components of a distribution automation system, including communication infrastructure and analysis tools, and includes extensive international case studies showing how the technology has been implemented in real-world situations.

2016 | Hardback | 352pp | 978-1-84919-828-8
PBPO0750 | £90 • $145

Smarter Energy: from Smart Metering to the Smart Grid

Editors: Hongjian Sun et al.
University of Durham, UK

This book presents cutting-edge perspectives and research results in smart energy. These span multiple disciplines including a variety of smart grid technologies and applications such as smart metering, energy management systems, demand side management, demand response, renewable energy integration, energy storage management, communication systems, and Internet of Things technologies. With contributions from an international team of leading experts, this is essential reading for researchers in academia and industry.

2016 | Hardback | c.512pp | 978-1-78561-104-9
PBPO0880 | £120 • $190

Wave and Tidal Generation Devices: Reliability and Availability

Author: Peter Tavner
Durham University, UK

There are many wave and tidal devices under development but very few are actually in revenue-earning production. However, the engineering problems are gradually being solved and there is an appetite to invest in these technologies for harsher environments. Wave and Tidal Generation Devices combines the lessons from the wind industry to show engineers, students and researchers the main reliability and availability issues facing the growing ocean energy industry. This is essential reading for wave and tidal engineers and researchers and advanced students of renewable energy. It will also be invaluable to those working with wave and tidal devices.

2016 | Hardback | c.270pp | 978-1-84919-734-2
PBRN0180 | £90 • $150
Wide Area Monitoring, Protection and Control Systems: The enabler for smarter grids

Editors: Alfredo Vaccaro & Ahmed Faheem Zobaa
University of Sannio, Italy & Brunel University, UK

This book is designed to give electrical and electronic engineers the knowledge and skills necessary to deploy synchronised measurement technology (SMT) in Wide Area Monitoring, Protection And Control (WAMPAC) applications. It focuses on technological breakthroughs and roadmaps in implementing synchronised measurement technology in WAMPAC applications, which aim to provide significant reliability and financial benefits in the planning, operation and maintenance of smarter power networks at both the distribution and transmission level.

2016 | Hardback | 200pp | 978-1-84919-830-1
PBPO0730 | £85 • $135

Numerical Analysis of Power System Transients and Dynamics

Editor: Akihiro Ametani
The Polytechnique Montréal, Canada

The transient analysis of electrical networks has become very important for both HVAC and HVDC systems, due to significant changes introduced through the connection of renewable energy sources. This book describes the three major power system transient and dynamics simulation tools based on a circuit-theory approach which are most widely used all over the world (EMTP-ATP, EMTP-RV and EMTDC/PSCAD), together with another powerful simulation tool called the numerical electromagnetic analysis method.

2015 | Hardback | 544pp | 978-1-84919-849-3
PBPO0780 | £90 • $145

Power Electronic Converters and Systems: Frontiers and applications

Editor: Andrzej M. Trzynadlowski
University of Nevada, USA

Power electronic systems are indispensable in adjustable speed drives, national smart power grids, electric and hybrid cars, electric locomotives and subway trains, renewable energy sources and distributed generation. With chapters written by specialists in their field, this is a comprehensive compendium of state-of-the-art knowledge related to recent advances in power electronic devices, converters and systems. It is essential reading for practising engineers and graduate students, specialising in the development and application of power electronic converters and systems.

2015 | Hardback | 638pp | 978-1-84919-826-4
PBPO0740 | £120 • $190

Power System Stability: Modelling, analysis and control

Authors: Om P. Malik & Abdelhay A. Sallam
University of Calgary, Canada & Port-Said University, Egypt

This title gives a comprehensive view of power system stability, covering both physical and mathematical perspectives. It features a range of topics including modelling, computation of load flow in the transmission grid, stability analysis under both steady-state and disturbed conditions, and appropriate controls to enhance stability. It also includes the development and physical real-time implementation of analytical and artificial intelligence based adaptive power system stabilisers to improve power system dynamic stability.

2015 | Hardback | 472pp | 978-1-84919-944-5
PBPO0760 | £105 • $175
Reliability of Power Electronic Converter Systems

Editors: Henry Shu-hung Chung et al.
City University of Hong Kong, HK

The main aims of power electronic converter systems (PECs) are to control, convert, and condition electrical power flow, from one form to another, through the use of solid-state electronics. This book outlines R&D into the scientific modelling, experimentation and remedial measures for advancing the reliability, availability, system robustness, and maintainability of PECs at different levels of complexity. Drawing on the experience of international experts, it covers a variety of applications from low- and high-power motor drives to automotive applications.

2015 | Hardback | 504pp | 978-1-84919-901-8
PBPO0800 | £120 • $190

Vehicle-to-Grid: Linking Electric Vehicles to the Smart Grid

Editors: Junwei Lu & Jahangir Hossain
Griffith University, Australia

The idea of the smart grid is well-established, but the concept of using electric vehicles (EVs) to support smart grids is still new. EVs are an increasingly important energy store for smart grids in cities, but the batteries of EVs also need to be charged and ready for their users. This book is an integrated treatment of Vehicle-to-Grid (V2G) technology, ranging from power generation, through monitoring and storage in stationary and electric vehicle batteries, to control techniques. It will interest researchers and advanced students as well as policymakers and planners.

2015 | Hardback | 272pp | 978-1-84919-855-4
PBPO0790 | £80 • $125

Wide-Area Monitoring of Interconnected Power Systems

Author: Arturo Román Messina
National Polytechnic Institute, Mexico

This is the first comprehensive, systematic account of advanced health monitoring and control systems, and near real-time power system analysis and security monitoring. It deals with the development and application of new analytical techniques, based on advanced signal processing methods and multi-scale, multi-temporal analysis tools, and the analysis, monitoring and control of wide-area phenomena in large interconnected power systems. It is suitable for advanced undergraduates, graduate students, researchers and utility engineers alike.

2015 | Hardback | 256pp | 978-1-84919-853-0
PBPO0770 | £90 • $145

IET JOURNALS

High Voltage

Editors-in-Chief: Masoud Farzaneh and Zhicheng Guan
Université du Québec à Chicoutimi, Canada and Tsinghua University, PR China

High Voltage aims to attract original research papers and review articles. The scope encompasses high-voltage power engineering and high voltage applications, including experimental, computational (simulation and modelling) and theoretical studies. It is a fully open access journal co-published with CEPRI (the China Electric Power Research Institute) and supported by Tsinghua University.

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**NEW**

**Biomedical Signal Processing: Respiratory Signals**

Editor: Zahra M. K. Moussavi
University of Manitoba, Canada

This book discusses signal processing with a specific focus on the respiratory system. It explores using the mathematical tool of signal processing to explain the best and most meaningful analysis of biological signal outputs from the respiratory system. Topics include spectral analysis of sounds, nonlinear analysis of sounds, swallowing sound analysis, lung sounds and application to diagnoses. Each chapter is co-authored by a biomedical engineer and an expert from the medical community, to firmly locate the use of these techniques in a biomedical setting.

Due Summer 2017 | Hardback | c.336pp | 978-1-78561-156-8
PBHE0080 | £115 • $185

**NEW**

**Enhanced Living Environments: From Models to Technologies**

Editors: Ciprian Dobre et al.
University Politehnica of Bucharest, Romania

This book offers a coherent and realistic image of architectures, techniques, protocols, and cloud-based solutions related to Ambient Assisted Living (AAL) and Enhanced Living Environment (ELE). It presents state-of-the-art technological solutions and supporting systems such as resource and data management, fault tolerance, security, monitoring and control. The book editors are part of The Enhanced Living Environments (ELE) project, which promotes the provision of infrastructures and services for autonomous living via the seamless integration of ICT within homes and residences.

Due Summer 2017 | Hardback | c.350pp | 978-1-78561-211-4
PBHE0100 | £105 • $170

**NEW**

**Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video**

Editors: Christos P. Loizou et al.
Cyprus University of Technology, Cyprus

This is the first book to combine speckle imaging and video filtering and tracking, and their applications. It provides different levels of material to researchers interested in developing imaging and video systems with better quality by limiting the corruption of speckle noise in their systems. Supporting sample imaging and video datasets will also be made available on the web, as well as sample source codes of the algorithms presented in this book via a MATLAB® toolbox available to download from the editors’ website.

Due Autumn 2017 | Hardback | c.500pp | 978-1-78561-290-9
PBHE0130 | £100 • $160

**NEW**

**Human Monitoring, Smart Health and Assisted Living: Techniques and Technologies**

Editors: Sauro Longhi et al.
Università Politecnica delle Marche, Italy

This book explores the use of techniques and technologies within ICT for the improvement of human quality of life - encompassing patient monitoring, data analysis and assistive services. Also discussed are the future challenges to develop effective and efficient healthcare and assistive systems for our current and future society. The book offers an interdisciplinary approach to the study of human monitoring, smart health and assisted living, under a unifying point of view to improve Quality of Life Technology (QoLT).

Due Spring 2017 | Hardback | c.300pp | 978-1-78561-150-6
PBHE0090 | £105 • $170
Portable Biosensors and Point-of-Care Systems

Editor: Spyridon E. Kintzios
Agricultural University of Athens, Greece

With views from international experts providing a variety of perspectives, this book describes the principles, design and applications of a new generation of analytical and diagnostic biomedical devices, characterised by their very small size, ease of use, multi-analytical capabilities and speed to provide handheld and mobile point-of-care (POC) diagnostics. It covers topics such as the history, development, latest research and applications of portable biosensors, ranging from the support of primary healthcare to food and environmental safety screening.

Due Winter 2017 | Hardback | c.440pp | 978-1-84919-962-9
PBHE0030 | £125 • $200

Semiconductor Lasers and Diode-based Light Sources for Biophotonics

Editors: Peter E. Andersen & Paul Michael Petersen
Technical University of Denmark, Denmark

Semiconductor lasers possess unique features in terms of performance, size and impact, and user-friendliness. From a team of international experts this book provides readers with a solid reference of the fundamentals of these devices through to the technologies and applications in bio-optics and biophotonics. It covers recent advances in semiconductor materials, visible and NIR lasers, LEDs, blue lasers, quantum cascade lasers, SDLs and their applications in photo-chemical applications, Near-Infrared Imaging, Raman spectroscopy, and optical coherence tomography.

Due Spring 2017 | Hardback | c.600pp | 978-1-78561-272-5
PBHE0070 | £120 • $190

Soft Robots for Healthcare Applications: Design, Modeling, and Control

Authors: Shane Xie et al.
The University of Auckland, New Zealand

This book presents a systematic investigation of the design, modeling and control of soft robots actuated by PMAs. It includes a thorough review of the research in the field, and new insights into emerging technologies and developments for use in soft robots for healthcare. It also demonstrates applications of mechatronics to provide better clinical rehabilitation services. This book will provide biomedical engineering and robotics professionals and students with the fundamental mechatronics engineering knowledge to analyze and design new soft devices.

Due Autumn 2017 | Hardback | c.400pp | 978-1-78561-311-1
PBHE0140 | £100 • $160

Wearable Technologies and Wireless Body Sensor Networks for Healthcare

Editors: Fernando José Velez & Fardin Derogarian Miyandoab
University of Beira Interior, Portugal

The rapid growth of smart textiles, high performance low power multi-hop networks, efficient processing techniques for smart antennas and ultra wideband represents a stimulus to provide new applications for on-, in- and body-to-body wearable communications for healthcare applications. This book explores the use of such sensor devices, smart textiles and other wearable technologies, applied to smart sensing in healthcare, including sport activity and health monitoring, radio communication aspects, and especially, energy efficient solutions with energy harvesting and storage.

Due Spring 2017 | Hardback | c.460pp | 978-1-78561-217-6
PBHE0110 | £115 • $185
**Active and Assisted Living: Technologies and Applications**

Editors: Francisco Florez-Revuelta & Alexandros André Chaaraoui
Kingston University, UK & University of Alicante, Spain

This is a broad introductory handbook, for academic and industry researchers, covering the major technologies and applications in Ambient Assisted Living (AAL). With contributions from around the world, topics covered include smart homes, environmental sensors and data fusion, wearable sensors, devices and smart clothes, standards and interoperability, computer vision for AAL, reasoning systems, assistive and service robotics, support for activities of daily living, mental health and cognitive stimulation, privacy and ethical issues.

2016 | Hardback | 496pp | 978-1-84919-987-2
PBHE0060 | £110 • $170

**Biomedical Nanomaterials: From Design To Implementation**

Editors: Hilal Yazici & Thomas J. Webster
Istanbul Kultur University, Turkey & Northeastern University, USA

Nanomaterials are finding numerous uses in medicine including fighting cancer. *Biomedical Nanomaterials* brings together the engineering applications and challenges of using nanostructured surfaces and nanomaterials in healthcare in a single source. *Biomedical Nanomaterials* is an invaluable resource and essential reading for researchers in industry and academia working at the interfaces of healthcare, engineering and nanotechnology. Topics covered include biomimetic coating, surface modifications and treatments, 3D biomaterials, nanobiomaterials, and bioactivity of nanomaterials.

2016 | Hardback | c.344pp | 978-1-84919-964-3
PBHE0040 | £105 • $170

**Machine Learning for Healthcare Technologies**

Editor: David A. Clifton
University of Oxford, UK

This book brings together chapters on the state-of-the-art in machine learning (ML) as it applies to the development of patient-centred technologies, with a special emphasis on “big data” and mobile data. With contributions from international experts from prestigious institutions, it describes cutting edge research and makes accessible, for the first time, the latest in Bayesian non-parametrics for healthcare. This is one of the key frontiers in ML, and its application to healthcare will serve as a useful tutorial guide for both ML-focussed and biomedical engineers.

2016 | Hardback | c.296pp | 978-1-84919-978-0
PBHE0020 | £95 • $150

**Nanobiosensors for Personalized and Onsite Biomedical Diagnosis**

Editor: Pranjal Chandra
Indian Institute of Technology, Guwahati, India

This book focuses mainly on the emerging nanobiosensor technologies which are geared towards onsite clinical applications and those which can be used as a personalized diagnostic device. Written by an international team of researchers who are developing these technologies, *Nanobiosensors for Personalized and Onsite Biomedical Diagnosis* covers the latest advances in the field of biosensors and biosensing applications. This important book includes an assessment of some current and emerging technologies for detecting protein biomarkers and other potential cancer biomarkers.

2016 | Hardback | 640pp | 978-1-84919-950-6
PBHE0010 | £105 • $175

How to order: +44 (0)1438 767328  sales@theiet.org
Photonic Integrated Circuits: Integration Platforms, Building Blocks and Design Rules

Authors: Martijn Heck et al.
Aarhus University, Denmark

Photonic Integrated Circuits provides an engineering-based approach to photonic integration technologies with coverage of all three main platforms: PLC / silica / doped glass, silicon-on-insulator, and indium phosphide. It focuses on the available libraries of commercially available optical components, and is based on close collaboration with the suppliers of these technologies. It also includes application examples, describing how PICs are being used in real world scenarios which provides engineers with a feeling of what the technology is capable of.

Due Spring 2017 | Hardback | c.344pp | 978-1-78561-074-5
PBCS0310 | £110 • $175

High Speed Data Converters

Author: Ahmed M.A. Ali
Analog Devices, Inc. USA

Written by a leading analogue-to-digital converter (ADC) designer, this book describes high speed Nyquist ADCs including architecture design, design methodology, circuit design techniques, problems, and trade off. Topics covered include an introduction to high-speed data conversion; performance metrics; data converter architectures; sampling; comparators; amplifiers; pipelined A/D converters; time-interleaved converters; digitally assisted converters; and evolution and trends.

2016 | Hardback | 464pp | 978-1-84919-938-4
PBCS0260 | £110 • $175

Nano-CMOS and Post-CMOS Electronics:
Devices and Modelling

Editors: Saraju P. Mohanty & Ashok Srivastava
University of North Texas, USA & Louisiana State University, USA

The demand for ever smaller and more portable electronic devices has driven metal oxide semiconductor-based (CMOS) technology to its physical limit with the smallest possible feature sizes. To enable even smaller electronics, various nanodevices including carbon nanotube transistors, graphene transistors, and memristors are emerging that could replace the traditional and ubiquitous silicon transistor. This first of two volumes describing the modelling, design, and implementation of nano-scaled CMOS electronics explores nanoelectronics at device level including modelling and design.

2016 | Hardback | 384pp | 978-1-84919-997-1
PBCS0290 | £95 • $150

Nano-CMOS and Post-CMOS Electronics:
Circuits and Design

Editors: Saraju P. Mohanty & Ashok Srivastava
University of North Texas, USA & Louisiana State University, USA

A companion to Devices and Modelling, this volume outlines circuit and system level design approaches and issues for these devices. Topics covered include self-healing analog RF circuits; FinFET SRAM circuits; low leakage variability aware CMOS logic circuits; thermal effects in MWCNT VLSI interconnects; an accurate PVT-aware statistical logic library for nano-CMOS integrated circuits; SPICEless RTL design optimisation of nano-electronic digital integrated circuits; power-delay trade-off driven optimal scheduling of CDFGs during high level synthesis; 3D NoC – a promising alternative for tomorrow’s nano-system design and DNA computing.

2016 | Hardback | 448pp | 978-1-84919-999-5
PBCS0300 | £95 • $150
Nano-Scaled Semiconductor Devices: Physics, Modelling, Characterisation, and Societal Impact

Editor: Edmundo A. Gutiérrez-D.
INAOE, Mexico

The rapid evolution of integrated circuit technology has brought with it many new materials and processing steps at the nano-scale which boost the electrical performance of devices, resulting in faster and more functionally-complex electronics. However, working at this reduced scale can bring second order effects that degrade efficiency and reliability. Nano-Scaled Semiconductor Devices describes methods for the characterisation, modelling, and simulation prediction of these second order effects in order to optimise performance, energy efficiency and new uses of nano-scaled semiconductor devices.

2016 | Hardback | 464pp | 978-1-84919-930-8
PBCS0270 | £120 • $190

Optical MEMS for Chemical Analysis and Biomedicine

Editor: Hongrui Jiang
University of Wisconsin-Madison, USA

Optical MEMS are micro-electromechanical systems merged with micro-optics. They allow sensing or manipulating optical signals on a very small size scale using integrated mechanical, optical, and electrical systems and hold great promise specifically in biomedical applications, among others. This book describes the current state of optical MEMS in chemical and biomedical analysis, bringing together topics representing the most exciting progress made and current trends in the field in recent years.

2016 | Hardback | 496pp | 978-1-84919-897-4
PBCS0250 | £100 • $160

Oscillator Circuits: Frontiers in Design, Analysis and Applications

Editor: Yoshifumi Nishio
Tokushima University, Japan

This book is a comprehensive volume on the most recent research on oscillator circuit design, analysis and application. It highlights developments in the analysis of synchronisation and wave phenomena, new analytical and design methods and their application, and novel engineering applications of oscillator circuits. This book covers various oscillatory circuits and their synchronisation and is essential reading for researchers, students and designers working in circuit theory, analysis, design and application.

2016 | Hardback | c.336pp | 978-1-78561-057-8
PBCS0320 | £71.50 • $175

Heat Management in Integrated Circuits: On-chip and system-level monitoring and cooling

Author: Seda Ogrenci-Memik
Northwestern University, USA

This essential overview covers devices and circuits used to convert temperature to a digital measurement, heat to electricity, and actively biased circuits that reverse thermal gradients on chips for cooling. The scope includes fundamental operating principles that touch upon the physics of materials as well as the circuit and system design aspects which enable successful functioning of these devices as an on-chip system. Finally, it discusses the use of these devices and systems for thermal management of high performance computing systems.

2015 | Hardback | 264pp | 978-1-84919-934-6
PBCS0280 | £105 • $175

How to order: +44 (0)1438 767328 sales@theiet.org
Biologically-Inspired Radar and Sonar: Lessons from Nature

Editors: Alessio Balleri et al.
Cranfield University, UK

Nature presents fascinating examples of active sensing, which is used in nature to carry out many different tasks such as navigation, collision avoidance and selection, identification and attack of prey. This book describes how these sophisticated natural sensing techniques can be applied to radar and sonar systems to improve their performance. With contributions from an international team of leading researchers, this is essential reading for radar and sonar practitioners in academia and research at governmental and industrial organisations.

Due Summer 2017 | Hardback | c.300pp | 978-1-61353-235-5
SBRA5140 | £110 • $175

Fundamentals of Systems Engineering for Defense Systems Applications

Author: Thomas W. Jeffery
Raytheon Integrated Defense Systems, USA

This highly practical book provides a user guide for both new and experienced practising systems engineers to execute fundamental systems engineering on real programs. Unlike the theoretical discussions in other books, this title highlights the practices, processes, and procedures that set the stage for the subsequent subsystem design, integration, and test phases, of typical programs. The book is split into four sections to provide a complete introduction to systems engineering theory and practice. This is essential reading for researchers and students in this field.

Due Spring 2017 | Hardback | c.284pp | 978-1-61353-233-1
SBRA5130 | £70 • $110

Novel Radar Techniques and Applications: Volume 1

Editor: Richard Klemm
Fraunhofer Society, Germany

Novel Radar Techniques and Applications presents the state-of-the-art in advanced radar, with emphasis on ongoing novel research and development and contributions from an international team of leading radar experts. Each section gives an overview of the latest research and perspectives of the future, and includes a number of chapters dedicated to specific techniques in conjunction with existing operational, experimental or conceptual applications. Volume 1 covers: Real aperture array radar and Imaging radar (SAR, ISAR).

2017 | Hardback | c.743pp | 978-1-61353-225-6
SBRA512A | £130 • $195

SET:
2017 | Hardback | 2 volumes | c.1200pp | 978-1-61353-229-4
SBRA512X | £250 • $395

Novel Radar Techniques and Applications: Volume 2

Editor: Richard Klemm
Fraunhofer Society, Germany

Novel Radar Techniques and Applications presents the state-of-the-art in advanced radar, with emphasis on ongoing novel research and development and contributions from an international team of leading radar experts. Each section gives an overview of the latest research and perspectives of the future, and includes a number of chapters dedicated to specific techniques in conjunction with existing operational, experimental or conceptual applications. Volume 2 covers: Passive and multistatic radar; waveform diversity and cognitive radar; and target tracking and data fusion.

2017 | Hardback | c.473pp | 978-1-61353-226-3
SBRA512B | £130 • $195

SET:
2017 | Hardback | 2 volumes | c.1200pp | 978-1-61353-229-4
SBRA512X | £250 • $395
Digital Techniques for Wideband Receivers 3rd Edition

Authors: James Tsui & Chi-Hao Cheng
Wright-Patterson AFB, USA & Miami University, USA

Digital Techniques for Wideband Receivers is widely recognised as the definitive design guide on digital processing work with today's complex receiver systems. This third edition brings readers up-to-date with the latest information on wideband electronic warfare receivers, and includes new chapters on the detection of FM and BPSK radar signals, analog-to-information, time-reversal filter and monobit receivers with improved instantaneous dynamic range. As well as theory, the book offers practical solutions to real digital receiver problems.

2015 | Hardback | 608pp | 978-1-61353-217-1

Modern Radar Detection Theory

Editors: Antonio De Maio & Maria Sabrina Greco
University of Naples Federico II, Italy & University of Pisa, Italy

Written by top researchers and recognised leaders in the field, this is the first book to provide a comprehensive understanding of the current research trends in modern radar detection. Updating readers with the latest radar signal processing algorithms now capable with high-speed computer chips and sophisticated programs, Modern Radar Detection Theory also includes examples and applications from real systems. This is essential reading for radar systems design engineers within aerospace companies, military radar engineers, and aerospace consultants.

2015 | Hardback | 388pp | 978-1-61353-199-0

Present and publish your work at one of the world's most important radar conferences. Radar 2017 offers radar engineers, researchers and practitioners the opportunity to showcase their new work in all aspects of radar systems for civil, security and defence applications. Successful authors will present their work at the conference, as well as enjoy extensive publication benefits including your full paper published by the IET in the conference proceedings, indexed on IET Inspec and submitted to IEEE Xplore.

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- Remote sensing from airborne or spaceborne systems
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- Emerging radar applications and technologies
- Computer modelling, simulation and validation

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The latest advances in computational methods have increased their scalability across a diverse range of applications and possible practical deployment. This book outlines the key emerging trends in computational methods, in terms of theories, algorithms and applications, for information security. Studies which couple computational theories and algorithms with real-time information security problems are combined with survey material which emphasises the applications of computational methods in information security.

Due Summer 2017 | Hardback | c.456pp | 978-1-84919-974-2
PBSE0010 | £115 • $185

This edited book covers a wide range of issues on data security in cloud computing. Many organisations have already embraced the idea of a centralised cloud, due to its benefits of economy, reliability and scalability. These benefits, however, are traded with the loss of control, since data is stored, computed upon and accessed on the cloud, which gives rise to a number of challenging data security issues. This one-stop reference is organised into six sections, covering all major aspects of securing data in cloud computing and Data Security Challenges in Emerging Technologies such as the Internet of Things (IoT) and Bring Your Own Device (BYOD) technologies.

Due Autumn 2017 | Hardback | c.650pp | 978-1-78561-220-6
PBSE0070 | £110 • $175

This book covers iris and periocular recognition, a prominent field in Biometrics Recognition and Identity Science in the areas of security, computing and communications research and technologies. Selected topics cover a wide spectrum of current research focusing on periocular recognition to augment the biometric performance of the iris in unconstrained environments, paving the way for multi-spectral biometric recognition on mobile devices. This text is divided into three parts to cover the most recent research and future directions as well as security related topics.

Due Summer 2017 | Hardback | c.350pp | 978-1-78561-168-1
PBSE0050 | £120 • $190

Mobile biometrics aim to achieve conventional functionality and robustness while also supporting portability and mobility, bringing greater convenience and opportunity for deployment in a wide range of operational environments. Achieving these aims brings new challenges, such as issues around algorithm complexity, device memory limitations and security. This book, the first substantial survey of its kind, aims to bring together high quality research addressing the new challenges of mobile biometrics.

Due Winter 2017 | Hardback | c.350pp | 978-1-78561-095-0
PBSE0030 | £110 • $175
Security, Privacy and Trust in the Internet of Things

Authors: Hannan Xiao & Ying Zhang
University of Hertfordshire, UK & Teledyne TSS Ltd, UK

The Internet of Things (IoT) describes physical objects and devices connected via the Internet. This covers a wide range of sensing and wireless technologies such as RFID tags, sensors, Smart phones, 3G/4G, Wi-Fi, Bluetooth, GPS, NFC, etc. that sense the environment and/or communicate with each other. Typical applications are for smart environments, healthcare, transportation, manufacturing, supply chain management, and surveillance. This new title covers the issues of Security, Privacy and Trust within the context of IoT applications.

Due Autumn 2017 | Hardback | c.500pp | 978-1-78561-203-9
PBSE0060 | £115 • $185

User-Centric Privacy and Security in Biometrics

Editor: Claus Vielhauer
Brandenburg University, Germany

Biometrics is a growing field of influence and significance in the security, communications, networking and computing fields. This book covers the major and critical system security challenges, developments, techniques and applications for biometric systems (confidentiality, authenticity, integrity, privacy, reliability, convenience, usability). It includes state-of-the-art contributions from international experts in the field which survey and evaluate how biometric techniques can enhance and increase the reliability of security strategies in a variety of applications.

Due Autumn 2017 | Hardback | c.400pp | 978-1-78561-207-7
PBSE0040 | £120 • $190

Engineering Secure Internet of Things Systems

Editors: Benjamin Aziz et al.
University of Portsmouth, UK

The Internet of Things (IoT) – the emerging global interconnection of billions of “smart” devices - will be collecting increasing amounts of private and sensitive data about our lives, and will require increasing degrees of reliability and trustworthiness in terms of the levels of assurance provided with respect to confidentiality, integrity and availability. This book examines these important security considerations for the IoT.

2016 | Hardback | 280pp | 978-1-78561-053-0
PBSE0020 | £105 • $165

IET Journals

IET Biometrics

Editor-in-Chief: Professor Michael Fairhurst
University of Kent, UK

IET Biometrics includes papers that increase our understanding of biometric systems, signal future developments and applications for biometrics, and/or promote greater practical uptake for relevant technologies.

www.ietdl.org/IET-BMT
Mobile data traffic is expected to exceed traffic from wired devices by 2018. This emerging future will be empowered by revolutionary 5G radio network technologies with a focus on application-driven connectivity, transparently deployed over various technologies, infrastructures, users and devices to give a vision of ‘the internet of everything’. This book presents a roadmap of 5G, presenting advanced radio technologies, innovative resource management approaches and novel architectures.

Due Winter 2017 | Hardback | c.304pp | 978-1-78561-061-5
PBTE0690 | £105 • $165

Access, Fronthaul and Backhaul Networks for 5G & Beyond

Access, Fronthaul and Backhaul Networks for 5G & Beyond covers a growing and thriving topic among the wireless, mobile, networking and computing communications community. A one-stop reference for state-of-the-art access, backhaul and fonthaul technologies for 5G and beyond, it also serves as a unique platform for both academic and industrial stakeholders to report and present innovation, covering a wide spectrum of underlying themes from the recent thrust in edge caching for backhaul relaxation to millimetre-wave based fonthauling for virtualised radio access.

Due Summer 2017 | Hardback | c.350pp | 978-1-78561-213-8
PBTE0740 | £90 • $145

Cloud and Fog Computing in 5G Mobile Networks

Cloud computing, a key trend in networking, shows that availability and fault tolerance issues can directly impact on millions of end-users. Now diffused among end-users devices in mobile and wired networks, the cloud is becoming the “fog”. This book elaborates on a new paradigm by presenting frameworks and schemes that use end-user or near-user edge devices to carry out storage, communication, computation and control in the network. Topics covered include network storage, the Internet of Things and heterogeneous 5G mobile services.

Due Spring 2017 | Hardback | c.400pp | 978-1-78561-083-7
PBTE0700 | £90 • $145.00

Introduction to Digital Wireless Communications

This book provides an introduction to advanced wireless transmission technologies in current and future wireless communication systems. It will help students and engineers with basic communication knowledge to quickly understand the principles and trade-offs involved in these digital wireless transmission technologies, start performing academic research in the field, and carry out product development. The material is presented without assuming an extensive background knowledge of digital communications. It also includes carefully designed problem-solving examples.

Due Summer 2017 | Hardback | c.400pp | 978-1-78561-160-5
PBTE0720 | £75 • $120
Network as a Service for Next Generation Internet
Editors: Qiang Duan & Shangguang Wang
Pennsylvania State University, USA & Beijing University, China

Flexible and effective service provisioning for supporting diverse applications is a key requirement for the next generation Internet. However, the current Internet lacks sufficient capability for meeting this requirement. Network-as-a-Service (NaaS) offers a promising approach to separating network architecture and infrastructure to make this possible and has been widely adopted in Cloud computing. This book provides a comprehensive survey of NaaS technologies, trends, applications and future directions for network service provisioning.

Due Summer 2017 | Hardback | c.400pp | 978-1-78561-176-6
PBTE0730 | £95 • $150

Resilience in Wireless Networks
Author: Prashant Krishnamurthy
University of Pittsburgh, USA

The book will provide a unified view of current research on resilience in wireless networks. It will illustrate the issues, challenges, and solution approaches currently under discussion. The book will bisect wireless networks into infrastructure and ad hoc topologies and consider the resilience of each separately. The book will be an academic monograph with some mathematical analyses and numerical examples, with an emphasis on concepts and generalisation rather than specific software tools or implementation aspects. There will be some descriptions of real-life examples as appropriate (e.g., attacks that have been actually observed or demonstrated).

Due Spring 2017 | Hardback | c.288pp | 978-1-84919-790-8
PBTE0620 | £85 • $140

Trusted Communications with Physical Layer Security for 5G and Beyond
Editors: Trung Q. Duong et al.
Queen’s University Belfast, UK

This book provides readers with comprehensive insights into the theory, models and techniques of Physical Layer Security and its applications in 5G and other emerging wireless networks. It covers recent advances in wireless communication and PHY security for 5G networks and beyond, including IoT, cognitive radio networks, massive MIMO, device-to-device communications, mm-wave communications, and energy harvesting communications. The potential of Physical Layer Security with a view to designing more secure communications in advanced networks of the future is also explored.

Due Autumn 2017 | Hardback | c.350pp | 978-1-78561-235-0
PBTE0760 | £90 • $145

Understanding Telecommunications Networks
2nd edition
Author: Andy Valdar
University College London, UK

This book is a fully revised, updated and expanded second edition of the existing ‘Understanding Telecommunications Networks’ book. This new edition has been revised to incorporate updates on the key and new areas of technology which have developed since the original book was published in 2006. It provides a comprehensive explanation of how various systems and technologies link together to construct networks and provide services. This book would complement the companion book: Understanding Telecommunications Business (2015).

Due Summer 2017 | Paperback | c.350pp | 978-1-78561-164-3
PBTE0710 | £50 • $80
Advanced Relay Technologies in Next Generation Wireless Communications

Editors: Ioannis Krikidis & Gan Zheng
University of Cyprus, Cyprus & University of Essex, UK

Advanced Relay Technologies in Next Generation Wireless Communications describes the use of the highly successful cooperative networks/relaying approach in new and emerging telecommunications technologies such as full-duplex radio, massive multiple-input multiple-output (MIMO), network coding and spatial modulation, and new application areas including visible light communications (VLC), wireless power transfer, and 5G.

2016 | Hardback | 536pp | 978-1-78561-003-5
PBTE0680 | £105 • $170

Advances in Body-Centric Wireless Communication: Applications and State-of-the-art

Editors: Qammer H. Abbasi et al.
Queen Mary University, UK

This book brings together contributions from a multidisciplinary team of researchers in the field of wireless and mobile communications, signal processing and medical measurements to present the underlying theory, implementation challenges and applications of this exciting new technology.

2016 | Hardback | 456pp | 978-1-84919-989-6
PBTE0650 | £95 • $150

Cognitive Radio Engineering

Authors: Charles W. Bostian et al.
Virginia Tech, USA

This book is both a text and a reference book about cognitive radio architecture and implementation. Intended for readers who want to design and build working cognitive radios, it provides a practical approach that differs from many existing titles that postulate and analyse or simulate ideal cognitive radios without considering how to build working prototypes. Written by acknowledged experts in the field who have built working cognitive radio systems, this book is essential reading for communications engineers working in academia or industry.

2016 | Hardback | 424pp | 978-1-61353-211-9
SBTE5020 | £75 • $120

Managing the Internet of Things: Architectures, Theories, and Applications

Editors: Jun Huang & Kun Hua
Chongqing University, China & Lawrence Technological University, USA

The Internet of Things (IoT) refers to the evolution of the internet as the interconnection not just of computers, but also uniquely identifiable, pervasive embedded devices. Research has estimated there will be nearly 30 billion devices on the IoT by 2020. The implementation and deployment of the IoT brings with it management challenges around seamless integration, heterogeneity, scalability, mobility, security, and many other issues. This book explores these challenges and possible solutions.

2016 | Hardback | c.224pp | 978-1-78561-028-8
PBTE0670 | £95 • $145
Understanding Telecommunications Business

Authors: Andy Valdar & Ian Morfett
University College London, UK & Lister Hospital, UK

This companion volume to the book Understanding Telecommunications Networks will be of interest to undergraduate and graduate students studying engineering, computing and telecommunications, and practitioners in industry. Topics covered include: introduction to the telecommunications business; regulation; business strategy; corporate finance and governance; network strategy and planning; customers and marketing; product management; network economics; network and service operations and company dynamics.

2015 | Paperback | 440pp | 978-1-84919-745-8
PBTE0600 | £45 • $75

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Autonomous Decentralized Systems and their Applications in Transport and Infrastructure

Editors: Kinji Mori & Takashi Konifui
Waseda University, Japan & JR East Group, Japan

Cyber-physical-social systems (CPSS) integrate computing, physical assets and human networks. This book describes state-of-the-art CPSS in electric power systems, including detailed approaches on social constructs, which are a critical aspect of the end-user realm, and is divided into the three application areas of the electric grid. This book will be invaluable to academics and research-led professional engineers engaged in cyber-physical social system applications for power engineering.

Due Summer 2017 | Hardback | c.250pp | 978-1-78561-281-7
PBTR0090 | £100 • $160

Low Carbon Mobility for Future Cities

Editor: Hussein Dia
Swinburne University of Technology, Australia

Taking the global view of the interactions between land use and transport this book brings together leading experts in the areas of urban planning, transport planning and strategy, traffic management and transport technology to present a cohesive work on the policy principles and practical applications to drive urban mobility services in tomorrow’s smart cities. Containing practical policy instruments and proven use cases, this book combines academic rigor with practical tools to benefit practitioners and city leaders.

Due Spring 2017 | Hardback | c.350pp | 978-1-78561-197-1
PBTR0060 | £105 • $170

Sliding Mode Control of Vehicle Dynamics

Editor: Antonella Ferrara
University of Pavia, Italy

This book is a comprehensive work on vehicle dynamics control through sliding mode control. This edited volume will cover the control of longitudinal, lateral and vertical dynamics of four-wheeled vehicles, both of conventional (i.e. combustion driven) type as well as fully-electric. In addition, one chapter is devoted to motorcycles, and one to the roll-over control in heavy vehicles. The topic is important not only for general safety of vehicular traffic, but also for future automated driving. This book is a must-read for both researchers and industry engineers in this field.

Due Summer 2017 | Hardback | c.350pp | 978-1-78561-209-1
PBTR0050 | £110 • $175

Energy Systems for Electric and Hybrid Vehicles

Editor: K.T. Chau
The University of Hong Kong, HK

The book provides thorough coverage of energy systems for electric and hybrid vehicles with a focus on the three main energy system technologies – energy sources, battery charging and vehicle-to-grid systems. Energy sources includes electrochemical energy sources, electromechanical energy storage, hybrid energy sources, on-board solar energy harvesting, on-board thermoelectric energy recovery, and battery management.

2016 | Hardback | 520pp | 978-1-78561-008-0
PBTR0020 | £110 • $175
Evaluation of Intelligent Road Transportation Systems: Methods and Results
Editor: Meng Lu
IBEC, Belgium

Intelligent Transport Systems (ITS) use information and communications technologies (ICT) to deliver transport improvements instead of extending physical infrastructure, thereby saving money and reducing environmental impact. This book provides a unique overview of ICT-based intelligent road transport systems with an emphasis on evaluation methods and recent evaluation results of ITS development and deployment. Case studies from various countries and methodology are also used to derive lessons.

Clean Mobility and Intelligent Transport Systems
Editors: Michele Fiorini & Jia-Chin Lin
Selex ES, Italy & National Central University, Taiwan

This book provides an important overview of current topics in intelligent transport systems and clean mobility. Edited by two experts in the field, this book covers the full spectrum of transport from land to sea and aircraft, and includes some research from the economic and human sciences. Clean Mobility and Intelligent Transport Systems covers topics including ICT for intelligent public transport systems; ITS and freight transport; steel and the green cars initiative; cooperative collision warning for vehicles; electronic toll collection systems; multisensor maritime surveillance; and aeronautical air-ground communications.

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BS 7671 (the IET Wiring Regulations) sets the standards for electrical installation in the UK and many other countries. The IET co-publishes the Regulations with the British Standards Institution (BSI) and is the authority on electrical installation.

Amendment 3 to BS 7671:2008 (17th Edition IET Wiring Regulations) was published in January 2015 and came into effect in July 2015 (with one regulation held back until January 2016).

The IET’s range of expert supporting guidance around BS 7671 has also been updated to Amendment 3 and can be found across the next few pages. The IET publishes the only guidance to be peer-reviewed and approved by industry.

Guide to Electrical Installations in Medical Locations
- for designers, installers and maintainers of electrical installations in medical locations
- reflects the requirements of BS 7681:2008+A3:2015
- definitive guidance on earthing and bonding arrangements in medical locations

Student’s Guide to Calculations
- provides fundamental guidance on the importance of carrying out accurate electrical calculations when designing and testing electrical installations
- easy to understand step by step diagrams and instructions to improve knowledge and understanding of calculations that form an integral part of level 2 and 3 electrical qualifications
- the content of this publication provides essential information for anyone working in the electrical industry from apprentice to designer

Commentary on IET Wiring Regulations BS 7671:2008+A3:2015
- a complete guide to the IET Wiring Regulations
- essential reading for consultants, electricians, installation designers and all those with a professional interest in the implementation and interpretation of BS 7671
- fully updated to Amendment 3 to BS 7671:2008

See page 48 for a list of verified Wiring Regulations re-sellers.
Student’s Guide to the IET Wiring Regulations
- integrates with current qualifications being delivered
- using diagrams and examples, provides students with guidance to navigate their way through the information available in BS 7671 while studying electrical courses
- provides the information that students will need throughout their studies and into their careers, including information about the various Acts and Regulations that may have implications on electrical installations

Guide to Consumer Units
- clarifies requirements for new Regulation 421.1.201
- includes case studies showing how aspects of an installation can be approached and dealt with
- provides guidance to electricians, installers, specifiers, duty holders, housing associations, LABC and landlords

- an essential guide for quick reference of information on BS 7671
- incorporates the extensive changes in Amendment 3 to BS 7671:2008, making this a vital guide to keep up-to-date
- enables the competent electrician to deal with installations (up to 100A, 3-phase) providing essential information in a convenient, easy-to-use format

Requirements for Electrical Installations: IET Wiring Regulations
- the IET Wiring Regulations is the national standard to which all domestic and industrial wiring must conform
- Amendment 3 contains important updates to several areas of BS 7671, including changes to safety requirements

Guidance Note 1: Selection & Erection
- a fundamental guide for specifiers, installers and those inspecting and testing installations
- contains clear guidance on how to apply the relevant sections of BS 7671
- fully up-to-date with the changes in Amendment 3 to BS 7671:2008
Guidance Note 2: Isolation & Switching
7th edition
- provides clear guidance on a confusing aspect of BS 7671
- ideal for those working in specification, testing and inspection and for consulting engineers, as well as electrical installers
- fully up-to-date with the changes in Amendment 3 to BS 7671:2008

Guidance Note 3: Inspection & Testing
7th edition
- a fundamental guidance book for all those involved with the testing and inspection of electrical installations
- also contains essential guidance for those studying for C&G 2394 and 2395 qualifications
- fully updated to Amendment 3 to BS 7671:2008 with the inclusion of new EIC and EICR forms

Guidance Note 4: Protection Against Fire
7th edition
- a vital guide to an important safety aspect of working with electricity
- aimed at everyone involved with fire safety in electrical installations, including consulting engineers, electrical installers, inspectors and technicians
- contains important updates to fire safety from Amendment 3 to BS 7671:2008

Guidance Note 5: Protection Against Electric Shock
7th edition
- a core element of safety for specifiers, designers, contractors and inspectors
- provides clear guidance on how to apply the safety requirements of BS 7671 concerning electric shock
- fully updated to Amendment 3 to BS 7671:2008

Guidance Note 6: Protection Against Overcurrent
7th edition
- a key guide to this important area of BS 7671
- for all involved with specifying, designing, installing or verifying electrical installations
- fully updated to Amendment 3 to BS 7671:2008

Guidance Note 7: Special Locations
5th edition
- provides a comprehensive guide to the various special locations and installations for which additional measures are required to comply with BS 7671
- designed for anyone working in special locations where guidance may vary, including consulting engineers, electricians, electrical installers, inspectors and technicians
- fully updated to Amendment 3 to BS 7671:2008
Guidance Note 8: Earthing and Bonding
3rd edition
- includes updated information from BS 7430:2011 Code of Practice for Earthing
- key guidance for all involved with specifying, designing, installing or verifying electrical installations
- fully updated to Amendment 3 to BS 7671:2008 and contains additional guidance on arrangements for electric vehicle charging points from Amendment 2 to BS 7671:2008

Electrical Installation Design Guide
3rd edition
- provides step-by-step guidance on the design of electrical installations
- useful for apprentices and trainees carrying out the calculations necessary for a basic installation
- fully updated to Amendment 3 to BS 7671:2008

Electrician’s Guide to the Building Regulations
4th edition
- updated to include the latest guidance on third-party certification schemes
- covers relevant parts of the Building Regulations, including Fire Safety, Ventilation and Conservation of Energy
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Model Form of contract
For the design, supply and installation of electrical, electronic and mechanical plant MF/1 (Revision 6)

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Commentary to MF/1 Revision 6
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