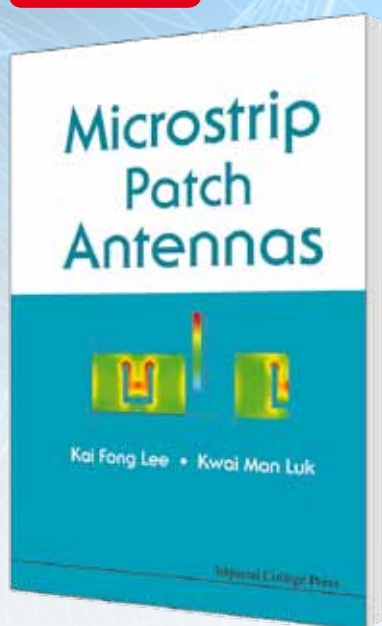
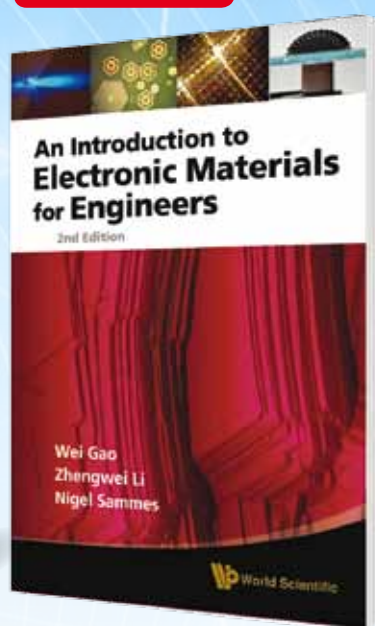


# Computer and Electrical & Electronics Engineering Textbooks 2011/12

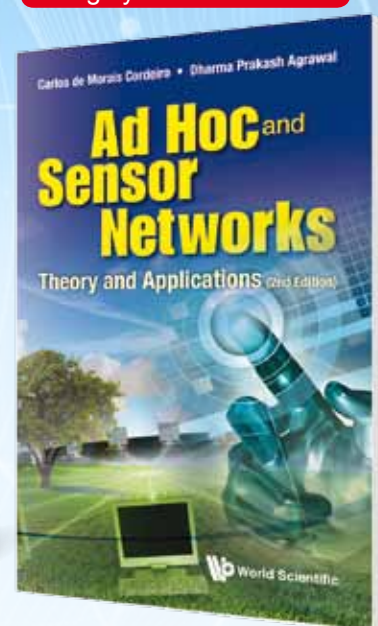
:: Bestseller



:: Editor's Pick



:: Highly Recommended



## MICROSTRIP PATCH ANTENNAS

by **Kai Fong Lee** (*The University of Mississippi, USA*) & **Kwai Man Luk** (*City University of Hong Kong, Hong Kong*)

Microstrip patch antennas have become the favorite of antenna designers because of its versatility and advantages of planar profile, ease of fabrication, compatibility with integrated circuit technology, and conformability with a shaped surface. As there is currently an urgent need for graduate students and practicing engineers to gain an in-depth understanding of this subject, this book was written with this purpose in mind. The authors are IEEE Fellows who have made significant contributions to their fields of expertise. Professor K F Lee was the recipient of the 2009 John Kraus Antenna Award of the IEEE Antennas and Propagation Society.

**Readership:** Graduate students, professors, antenna designers in industry.

600pp                      Aug 2010  
978-1-84816-453-6      US\$118              £82

## AN INTRODUCTION TO ELECTRONIC MATERIALS FOR ENGINEERS (2nd Edition)

by **Wei Gao** (*University of Auckland, New Zealand*), **Zhengwei Li** (*University of Auckland, New Zealand*), & **Nigel Sammes** (*Colorado School of Mines, USA*)

*An Introduction to Electronic Materials for Engineers* aims to give a basic understanding and comprehensive overview of a wide range of materials, such as conducting materials, semiconductors, magnetic materials, optical materials, dielectric materials, superconductors, thermoelectric materials and ionic materials. The new chapters added into this latest edition include thin film electronic materials, organic electronic materials and nanostructured materials. These chapters aim to reflect the new developments made in electronic materials and nanotechnology research towards the design and fabrication of modern equipment and electronic devices.

**Readership:** Students, professionals (engineering), non-experts interested in electronic materials.

450pp                      Nov 2010  
978-981-4293-69-3      US\$68              £45

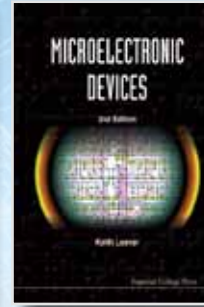
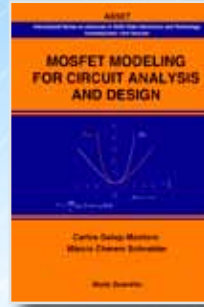
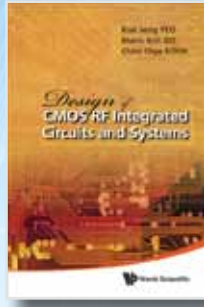
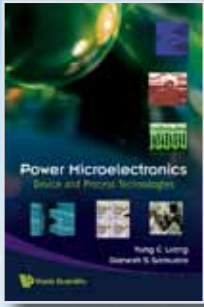
## AD HOC AND SENSOR NETWORKS: Theory and Applications (2nd Edition)

by **Carlos de Moraes Cordeiro** (*Intel Corporation, USA*) & **Dharma Prakash Agrawal** (*University of Cincinnati, USA*)

This book provides a comprehensive yet easy coverage of ad hoc and sensor networks and fills the gap of existing literature in this growing field. It emphasizes that there is a major interdependence among various layers of the network protocol stack. Contrary to wired or even one-hop cellular networks, the lack of a fixed infrastructure, the inherent mobility, the wireless channel, and the underlying routing mechanism by ad hoc and sensor networks introduce a number of technological challenges that are difficult to address within the boundaries of a single protocol layer.

**Readership:** Researchers, developers and institutions keen in the applications of wireless devices, and graduate and senior undergraduate students in networking, computer engineering and electrical engineering.

600pp                      Mar 2011  
978-981-4338-88-2      US\$98              £61  
978-981-4338-89-9(pbk)      US\$51              £32



**:: Bestseller**

## POWER MICROELECTRONICS: Device and Process Technologies

by **Yung C Liang** (National University of Singapore, Singapore) & **Ganesh S Samudra** (National University of Singapore, Singapore)

This descriptive textbook provides an in-depth look at the theories and process technologies necessary for understanding modern power semiconductor devices, i.e. from the fundamentals of junction electrostatics, p-n junction devices, unipolar MOSFET, bipolar IGBT, and superjunction devices to their associated silicon wafer process technology. State-of-the-art devices based on current research and development are included in the book to widen the scope for future device generation.

**Readership:** Final-year undergraduate and graduate students in power electronics power semiconductor device designers and engineers.

432pp  
978-981-279-100-9      May 2009  
US\$96      £66

## DESIGN OF CMOS RF INTEGRATED CIRCUITS AND SYSTEMS

by **Kiat Seng Yeo** (Nanyang Technological University, Singapore), **Manh Anh Do** (Nanyang Technological University, Singapore), & **Chirn Chye Boon** (Nanyang Technological University, Singapore)

This book provides the most comprehensive and in-depth coverage of the latest circuit design developments in RF CMOS technology. It is a practical and cutting-edge guide, packed with proven circuit techniques and innovative design methodologies for solving challenging problems associated with RF integrated circuits and systems.

**Readership:** Advanced undergraduates and graduate students in engineering; circuit designers, engineers, researchers, scientists and instructors working in RF integrated circuit and system design; non-experts interested in wireless and communication system design.

360pp  
978-981-4271-55-4      Mar 2010  
US\$68      £45

**:: Bestseller**

## MATHEMATICAL TOOLS IN SIGNAL PROCESSING WITH C++ AND JAVA SIMULATIONS

by **Willi-Hans Steeb** (University of Johannesburg, South Africa)

*"This book provides an excellent balance between theory and applications and can serve as a good textbook or a reference for students and beginners in signal processing. The materials of the book are presented in a self-contained way and can be easily understood at the undergraduate level."*

**Zentralblatt MATH**

**Readership:** Electronic engineers, computer scientists, physicists and mathematicians.

300pp  
978-981-256-500-6      Sep 2005  
US\$121      £83

**:: Bestseller**

## MOSFET MODELING FOR CIRCUIT ANALYSIS AND DESIGN

by **Carlos Galup-Montoro** (Federal University of Santa Catarina, Brazil) & **Márcio Cherm Schneider** (Federal University of Santa Catarina, Brazil)

This is the first book dedicated to the next generation of MOSFET models. Addressed to circuit designers with an in-depth treatment that appeals to device specialists, the book presents a fresh view of compact modeling, having completely abandoned the regional modeling approach. Compact expressions for hand analysis or for automatic synthesis, valid in all operating regions, are presented throughout the book. All the main expressions for computer simulation used in the new generation compact models are derived.

**Readership:** Advanced undergraduate and graduate courses in device modeling and integrated circuit design; digital, analog and RF circuit designers; and electronics device modeling and characterization engineers.

448pp  
978-981-256-810-6      Feb 2007  
US\$99      £68

**:: Bestseller**

## MICROELECTRONIC DEVICES (2nd Edition)

by **Keith Leaver** (Imperial College, London)

The second edition of this introductory book sets out clearly and concisely the principles of operation of the semiconductor devices that lie at the heart of the microelectronic revolution. The book aims to teach the reader how semiconductor devices are modelled. It also describes the processes involved in fabricating silicon chips containing these devices.

**Readership:** Undergraduate students in electrical and electronic engineering.

256pp  
978-1-86094-020-0(pbk)      Oct 1997  
US\$24      £16

**:: Bestseller**

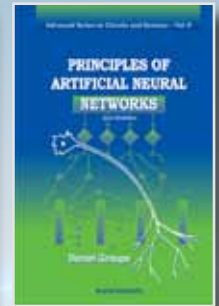
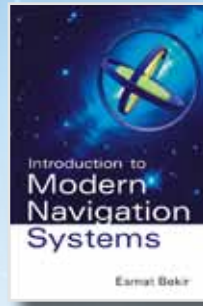
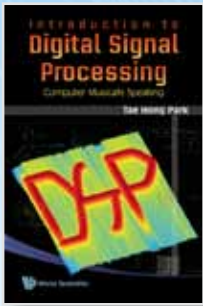
## SEMICONDUCTOR MANUFACTURING TECHNOLOGY

by **Chue San Yoo** (Former Associate Professor at Tamkang University & National Tsing Hua University, Taiwan)

This textbook contains all the materials that an engineer needs to know to start a career in the semiconductor industry. It also provides readers with essential background information for semiconductor research. It is written by a professional who has been working in the field for over two decades and teaching the material to university students for the past 15 years. It includes process knowledge from raw material preparation to the passivation of chips in a modular format.

**Readership:** Senior undergraduate and graduate students as well as researchers and engineers in semiconductor industries.

484pp  
978-981-256-823-6      Mar 2008  
US\$151      £104



## INTRODUCTION TO DIGITAL SIGNAL PROCESSING: Computer Musically Speaking

by **Tae Hong Park** (*Tulane University, USA*)

"...Overall, Mr Park's introduction to the fundamentals of signal processing with emphasis on audio, written with a subtle, wry humor and an awareness of musical aesthetics, is an engaging and practical textbook for students and a practical reference for veterans as well."

*Computer Music Journal*

**Readership:** Undergraduate and graduate students, researchers and academics in digital audio and multimedia as well as music.

452pp  
978-981-279-027-9

Nov 2009  
US\$96 £66

:: Editor's Pick

## DIGITAL SIGNAL PROCESSING: Theory and Practice

by **D Sundararajan** (*Newtech Software Pte Ltd, India*)

This concise and clear text is intended for a senior undergraduate and graduate level, one-semester course on digital signal processing. Emphasis on the use of the discrete Fourier transform (the heart of practical digital signal processing) and comprehensive coverage of the design of commonly used digital filters are the key features of the book. The large number of visual aids such as figures, flow graphs, and tables makes the mathematical topic easy to learn. Solution Manual to the questions (as a separate volume) is available to instructors or lecturers.

**Readership:** Upper level undergraduates, graduate students, lecturers and researchers in engineering and applied mathematics.

292pp  
978-981-238-216-0

Jan 2003  
US\$53 £37

:: Bestseller

## INTRODUCTION TO MODERN NAVIGATION SYSTEMS

by **Esmat Bekir**

The emerging technology of very inexpensive inertial sensors is available for navigation as never before. The book lays the analytical foundation for understanding and implementing the navigation equations. It starts by demystifying the central theme of the frame rotation using such algorithms as the quaternions, the rotation vector and the Euler angles. After developing navigation equations, the book introduces the computational issues and discusses the physical aspects that are tied to implementing these equations. The book then explains alignment techniques.

**Readership:** Researchers, academics and students interested in analysis and differential equations and navigation.

256pp  
978-981-270-765-9  
978-981-270-766-6(pbk)

Jul 2007  
US\$91 £63  
US\$58 £40

## RECONSTRUCTION OF CHAOTIC SIGNALS WITH APPLICATIONS TO CHAOS-BASED COMMUNICATIONS

by **Jiu Chao Feng** (*South China University of Technology, Guangzhou, China*) & **Chi Kong Tse** (*The Hong Kong Polytechnic University, Hong Kong*)

This book provides a systematic review of the fundamental theory of signal reconstruction and the practical techniques used in reconstructing chaotic signals. Specific applications of signal reconstruction methods in chaos-based communications are expounded in full detail, along with examples illustrating the various problems associated with such applications.

**Readership:** Advanced undergraduate and graduate students in electronic and communication engineering, physics, automatic control, and applied mathematics; non-experts interested in nonlinear science.

232pp  
978-981-277-113-1

Sep 2008  
US\$82 £57

Series in Machine Perception and Artificial Intelligence

## INTEGRATION OF SWARM INTELLIGENCE AND ARTIFICIAL NEURAL NETWORK

edited by **Satchidananda Dehuri** (*Fakir Mohan University, India*), **Susmita Ghosh** (*Jadavpur University, India*), & **Sung-Bae Cho** (*Yonsei University, South Korea*)

This book provides a new forum for the dissemination of knowledge in both theoretical and applied research on swarm intelligence (SI) and artificial neural network (ANN). It accelerates interaction between the two bodies of knowledge and fosters a unified development in the next generation of computational model for machine learning. To the best of our knowledge, the integration of SI and ANN is the first attempt to integrate various aspects of both the independent research area into a single volume.

**Readership:** Researchers, academics and graduate students in neural networks, machine vision, artificial intelligence, electrical & electronic engineering and industrial engineering.

400pp  
978-981-4280-14-3

Jan 2011  
US\$111 £76

:: Highly Recommended

Advanced Series in Circuits and Systems - Vol. 6

## PRINCIPLES OF ARTIFICIAL NEURAL NETWORKS (2nd Edition)

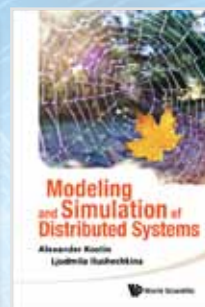
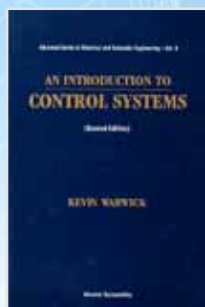
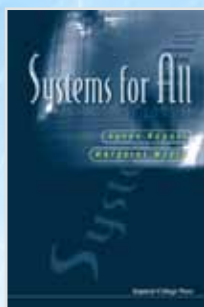
by **Daniel Graupe** (*University of Illinois, Chicago, USA*)

Covering major neural network approaches and architectures with the theories, this text presents detailed case studies for each of the approaches, accompanied with complete computer codes and the corresponding computed results.

**Readership:** Graduate and advanced senior students in electrical and computer engineering, computer science, biomedical engineering, systems analysts and data mining engineers.

320pp  
978-981-270-624-9

Apr 2007  
US\$111 £76



**:: Bestseller**

Advanced Series in Circuits and Systems - Vol. 5

## FEEDBACK NETWORKS: THEORY AND CIRCUIT APPLICATIONS

by **J Choma** (University of Southern California) & **W K Chen** (University of Illinois, Chicago)

This book addresses the theoretical and practical circuit and system concepts that underpin the design of reliable and reproducible, high performance, monolithic feedback circuits. It is intended for practicing electronics engineers and students who wish to acquire an insightful understanding of the ways in which open loop topologies, closed loop architectures, and fundamental circuit theoretic issues combine to determine the limits of performance of analog networks.

**Readership:** Electronics engineers and circuit theoreticians.

888pp  
978-981-02-2770-8      Mar 2007  
US\$164      £113

**:: Bestseller**

## SPACE-TIME ARRAY COMMUNICATIONS: Vector Channel Estimation and Reception

by **Jason W P Ng** (British Telecommunications Research Labs., UK)

This book hence attempts to bridge the knowledge gap, looking at the integration of two emerging technologies from an array manifold perspective — space-time array processing and spread spectrum multiple access communications. It covers a range of novel multiuser channel estimation and reception techniques, which is designed to provide mitigations of the various associated channel impairments in accordance to its environmental context.

**Readership:** Researchers, postgraduate, graduate and undergraduate students in electrical & electronic engineering, aerospace engineering, computer engineering and biomedical engineering.

184pp  
978-1-86094-672-1      Mar 2007  
US\$82      £57

**:: Bestseller**

## SYSTEMS FOR ALL

by **Agnes Kaposi** (Kaposi Associates, London) & **Margaret Myers** (The American International University, London)

*"I recommend this book to teachers and researchers as it provides a basis of an intellectual framework for systems engineering ... I believe that this work will be a major contribution to the development of a systematic framework for systems engineering as the discipline becomes more mature."* **John McDermid, University of York**

**Readership:** Undergraduate and postgraduate students in systems engineering, information technology and management; professionals working in these fields; general readers with an interest in systems.

388pp  
978-1-86094-273-0      Jun 2001  
US\$73      £51  
978-1-86094-275-4(pbk)      US\$41      £28

**:: Bestseller**

Advanced Series in Electrical and Computer Engineering - Vol. 8

## AN INTRODUCTION TO CONTROL SYSTEMS (2nd Edition)

by **K Warwick** (University of Reading)

This second edition includes an introductory guide to some more recent developments, namely fuzzy logic control and neural networks.

**Readership:** Engineering and applied mathematics undergraduates.

376pp  
978-981-02-1563-7      Jan 1996  
US\$69      £47  
978-981-02-2597-1(pbk)      US\$36      £25

## MODELING AND SIMULATION OF DISTRIBUTED SYSTEMS (With CD-ROM)

by **Alexander Kostin** (Eastern Mediterranean University, Northern Cyprus) & **Ljudmila Ilushechkina** (Moscow Institute of Electronic Technology-Technical University, Russia)

CD-ROM with a simulation system and numerous solved models is attached to the book. The book can be useful to academics who give related graduate courses or deliver research-oriented modules for graduate students. Further, the book can be helpful to system architects and developers who apply modeling and simulation techniques as a step in the design and implementation of their systems.

**Readership:** Advanced undergraduate and graduate students, academics and researchers in computer engineering; designers of distributed systems; developers of simulation models of complex information systems.

440pp  
978-981-4291-67-5      Jun 2010  
US\$85      £56

**:: Bestseller**

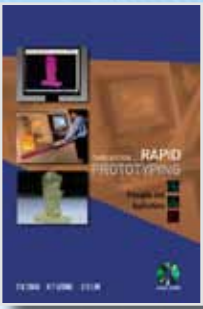
## THE THEORY AND TECHNIQUE OF ELECTRONIC MUSIC

by **Miller Puckette** (University of California, San Diego, USA)

This is the first book to develop both the theory and the practice of synthesizing musical sounds using computers. Each chapter starts with a theoretical description of one technique or problem area and ends with a series of working examples (over 100 in all), covering a wide range of applications.

**Readership:** Graduate students, music composers, researchers, performers and music software enthusiasts.

348pp  
978-981-270-077-3      May 2007  
US\$111      £76



### RAPID PROTOTYPING: Principles and Applications - Third Edition (with Companion CD-ROM)

by **C K Chua** (Nanyang Technological University, Singapore), **K F Leong** (Nanyang Technological University, Singapore), & **C S Lim** (Nanyang Technological University, Singapore)

"To date, this is the only published text on RP that can be recommended to undergraduate students. Whenever I start my students off on a project that involves RP, and they say 'what is RP?', this is the book I give them to read. This book is an excellent introduction to RP." **Dr Ian Gibson, Co-Editor of Rapid Prototyping Journal, MCB Press, UK**

**Readership:** Diploma and advanced diploma students, undergraduates, postgraduates, consultants, academics and professionals in mechanical and industrial engineering.

<b>540pp</b>	<b>Jan 2010</b>	
<b>978-981-277-897-0</b>	<b>US\$96</b>	<b>£63</b>
<b>978-981-277-898-7(pbk)</b>	<b>US\$69</b>	<b>£46</b>

### ADAPTIVE CONTROL OF ROBOT MANIPULATORS: A Unified Regressor-Free Approach

by **An-Chyau Huang** (National Taiwan University of Science and Technology, Taiwan) & **Ming-Chih Chien** (National Taiwan University of Science and Technology, Taiwan)

This book introduces an unified function approximation approach to the control of uncertain robot manipulators containing general uncertainties. It works for free space tracking control as well as compliant motion control. It is applicable to the rigid robot and the flexible joint robot. Even with actuator dynamics, the unified approach is still feasible. All these features make the book stand out from other existing publications.

**Readership:** Researchers, practitioners, and graduate students in the field of robot control.

<b>276pp</b>	<b>Apr 2010</b>	
<b>978-981-4307-41-3</b>	<b>US\$99</b>	<b>£68</b>

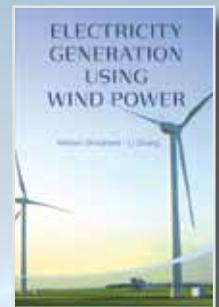
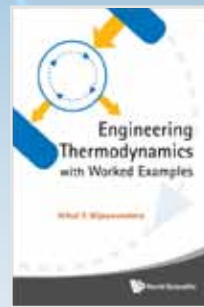
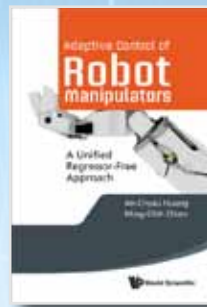
### ENGINEERING THERMODYNAMICS WITH WORKED EXAMPLES

by **Nihal E Wijesundera** (National University of Singapore, Singapore)

The book includes all the subject matter covered in a typical undergraduate course in engineering thermodynamics. It includes 20 to 25 worked examples for each chapter, carefully chosen to expose students to diverse applications of engineering thermodynamics.

**Readership:** Undergraduate and graduate students in mechanical engineering, chemical engineering, civil engineering, electrical & electronic engineering, bioengineering, applied physics and thermodynamics.

<b>720pp</b>	<b>Aug 2010</b>	
<b>978-981-4293-13-6</b>	<b>US\$148</b>	<b>£98</b>
<b>978-981-4293-14-3(pbk)</b>	<b>US\$78</b>	<b>£51</b>



### ELECTRICITY GENERATION USING WIND POWER

by **William Shepherd** (University of Bradford, UK) & **Li Zhang** (University of Leeds, UK)

This book is written for electrical engineers concerned with the use of wind power for generating electricity. It incorporates some meteorological features of international wind supply plus a survey of the past and present wind turbines with technical assessment of the choice of turbine sites. Detailed coverage is given to the different types of electrical generator machines used and the electronic control devices employed in modern turbine systems. It devotes full chapters to the integration of wind farms into established electrical grid supply systems, and the environmental and economic aspects of wind generation.

**Readership:** Electrical power engineers, undergraduate and postgraduate students of electrical engineering.

<b>350pp</b>	<b>Nov 2010</b>	
<b>978-981-4304-13-9</b>	<b>US\$90</b>	<b>£62</b>

### A COURSE IN DISCRETE MATHEMATICAL STRUCTURES

by **L R Vermani** (Kurukshetra University, India) & **Shalini Vermani** (Apeejay Institute of Management, India)

This book provides a broad introduction to some of the most fascinating and beautiful areas of Discrete Mathematical Structures. It starts with a chapter on sets, before providing examples in logic, and a presentation on the Principal of Mathematical Introduction. Computational techniques are also provided, as well as a study on elementary properties of graphs, trees and lattices.

**Readership:** Undergraduate and graduate students and researchers in the field of computer science, computer engineering and mathematics.

<b>500pp</b>	<b>Apr 2011</b>	
<b>978-1-84816-696-7</b>	<b>US\$120</b>	<b>£74</b>
<b>978-1-84816-707-0(pbk)</b>	<b>US\$60</b>	<b>£37</b>

Communications and Signal Processing - Vol. 4

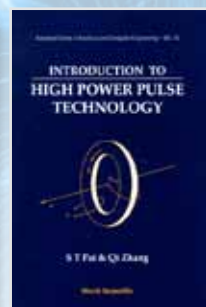
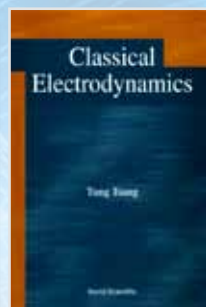
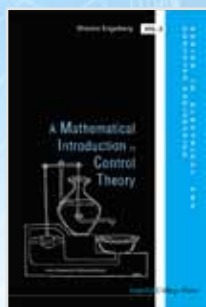
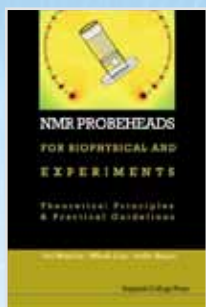
### AUDIO VISUAL PERSON TRACKING: A Practical Approach

by **Fotios Talantzis** (Athens Information Technology, Greece), **Aristodemos Pnevmatikakis** (Athens Information Technology, Greece), & **Anthony G Constantinides** (Imperial College London, UK)

This book deals with the creation of the algorithm backbone that enables a computer to perceive humans in a monitored space, by processing the signals that humans use in order to perform a task, i.e., audio and video. This book also focuses on implementation by providing MATLAB code for every presented component.

**Readership:** Graduate students, academics and researchers in signal processing, machine perception/computer vision and electrical & electronic engineering.

<b>250pp</b>	<b>Jan 2011</b>	
<b>978-1-84816-581-6</b>	<b>US\$56</b>	<b>£37</b>



**:: Bestseller**

## NMR PROBEHEADS FOR BIOPHYSICAL AND BIOMEDICAL EXPERIMENTS: Theoretical Principles and Practical Guidelines (With CD-ROM)

by **Joël Mispelter** (Curie Institute and INSERM, France), **Mihaela Lupu** (Curie Institute, France), & **André Briguet** (University Claude Bernard Lyon 1 and CNRS, France)

The material guides the reader through the most basic and comprehensive stages in accomplishing a correct probe design, from a very basic oscillating circuit to much more elaborate designs. Preventing NMR probes from becoming radiating antennas, multiple tuning principles, and steps for evaluating and debugging a probe are all covered. For the first time, these principles are applied for both homogeneous and heterogeneous resonators. The CD contains software utilities used to exemplify the stages of different probe designs.

**Readership:** Researchers in the biophysical and biomedical fields, medical doctors, and engineers.

612pp  
978-1-86094-637-0      May 2006  
US\$139      £96

**:: Highly Recommended**

Series on Quality Reliability and Engineering Statistics - Vol. 12

## ENCYCLOPEDIA AND HANDBOOK OF PROCESS CAPABILITY INDICES: A Comprehensive Exposition of Quality Control Measures

by **W. L. Pearn** (National Chiao Tung University, Taiwan) & **Samuel Kotz** (George Washington University, USA)

*"The authors provide a very useful Bibliography arranged alphabetically by the first author's name which contains a voluminous listing of 474 publications ... this book is unique and will be very useful for industries and research organizations concerned with the process control."*  
**International Journal of Performability Engineering**

**Readership:** Undergraduate and graduate students, researchers and engineers in engineering, statistics, environmental sciences, and quality control and management.

392pp  
978-981-256-759-8      May 2006  
US\$139      £96

**:: Highly Recommended**

## INTRODUCTION TO WINDOWS® AND GRAPHICS PROGRAMMING WITH VISUAL C++®.NET (With CD-Rom)

by **Roger Mayne** (University at Buffalo, State University of New York, USA)

After using this book and following its collection of example programs, readers should be well prepared to write interactive programs which integrate Windows functionality and graphics with their own C++ programming. The step-by-step structure of each example in the book is described thoroughly and only standard Microsoft resources for graphics are required.

**Readership:** Technical people including practicing engineers, engineering students and general readers learning C++.

352pp  
978-981-256-455-9      Aug 2005  
US\$97      £67  
978-981-256-199-2 (pbk)      US\$58      £40

**:: Bestseller**

## A MATHEMATICAL INTRODUCTION TO CONTROL THEORY

Series in Electrical and Computer Engineering - Vol. 2  
by **Shlomo Engelberg** (Jerusalem College of Technology, Israel)

*"This book has a sound mathematical background — the mathematical statements are given with proofs. The prerequisites of the textbook are a course in complex analysis and basic elements of linear algebra and ordinary differential equations."*  
**Zentralblatt MATH**

**Readership:** Undergraduate and graduate students in engineering, especially electrical engineering, and students in applied mathematics programs.

368pp  
978-1-86094-570-0      Jun 2005  
US\$100      £69

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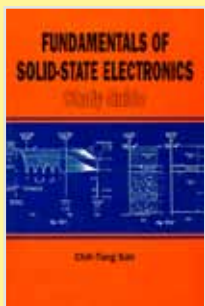
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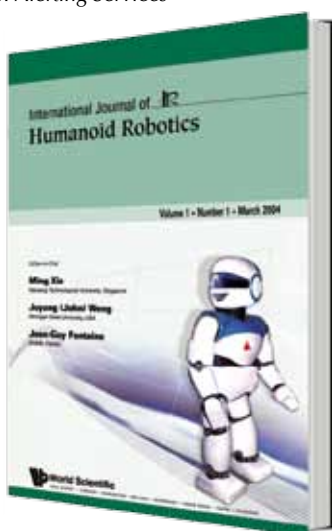
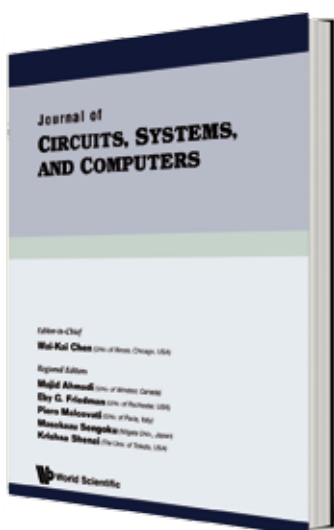
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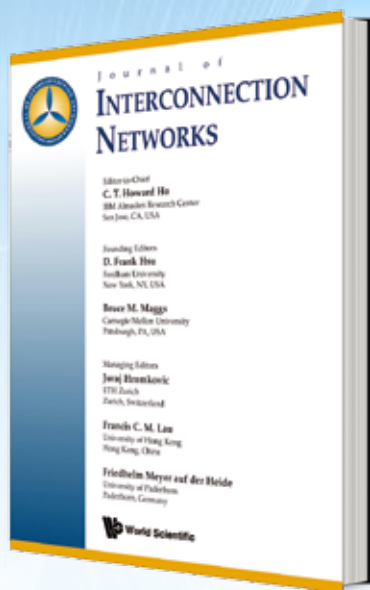
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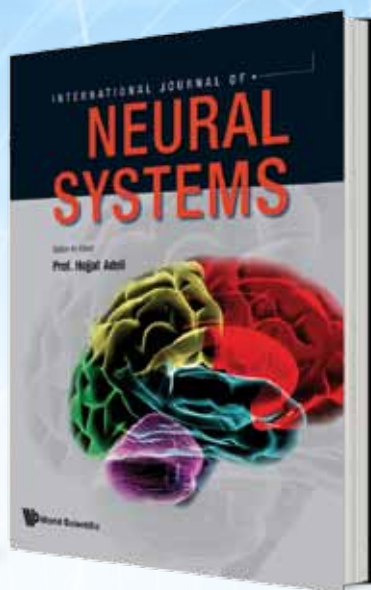
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