2013-2014
ASME Press Catalog

- Books
- ASME Press Select Proceedings
Biomedical Engineering

Medical Devices for Respiratory Dysfunction: Principles and Modeling of Continuous Positive Airway Pressure (CPAP)
By Ahmed M. Al-Jumaily Contributing Author, Prasika I. Reddy

- The primary objective of this book is to present recent research and development on Continuous Positive Airway Pressure (CPAP) devices with particular focus on their use for the treatment of the most prevalent respiratory disorders: Obstructive Sleep Apnea (OSA) and Respiratory Distress Syndrome (RDS).
- Part 1 consists of five chapters which focus on OSA devices.
- Part 2 focuses on the use of the Bubble CPAP system to treat RDS.

This book will have widespread use in undergraduate and graduate modeling courses.

Publisher: ASME
Product Dimensions: 9.2 x 6.2 x 0.7 inches
Published Date: 2013
Order No. 860113
List $89.95
ISBN: 9780791860113

Photodynamic Therapy Mediated by Fullerenes and their Derivatives
By Felipe F. Sperandio, Asheesh Gupta, Min Wang, Rakkhiyappan Chandran, Mageh Sadatsavm, Ying-Ying Huang, Long Y. Chiang & Michael R. Hamblin

Abstract: The fullerene molecule with its unique structure of 60 carbon atoms arranged in a soccer ball structure is a molecule of great potential for a variety of applications and has drawn the attention of many physicists, chemists and engineers. Recently, these nanomaterials have also been studied for their biological activities with a view towards using them for biomedical applications. One of the possible therapies for which fullerenes may have a real medical application is the light based therapy called photodynamic therapy (PDT), which is a non-surgical, minimally invasive approach that has been used in the treatment of solid tumors and many non-malignant diseases.

Publisher: ASME
Product Dimensions: 9 x 6 x 0.2 inches
Published Date: 2013
Order No. 860083
List $89.95
ISBN: 9780791860083

GFP Whole Cell Microbial Biosensors: Scale-up and Scale-down Effects on Biopharmaceutical Processes
By Frank Delvigne, Alison Brouqua, Shanshan Han, Søren J. Sørensen & Philippe Thonart

Abstract: Two strategies are usually considered for the optimization of microbial bioprocesses. The first one involves genetic or metabolic engineering of the target microbial strain in order to improve its production efficiency or its tolerance to adverse conditions. The second one is based on the chemical engineering improvement of the bioreactors and scaling-up rules. This work is more particularly dedicated to this second class of parameters. Recent developments in bioreactor technologies follow the scaling-out principle, i.e. carrying out several cultures in parallel with controlled conditions for screening purposes.

Publisher: ASME
Product Dimensions: 0.2 x 5.9 x 8.9 inches
Published Date: 2013
Order No. 860090
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Contact Information

Customer Care
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Chris Mahler
Business Development Manager
22 Law Drive, P.O. Box 2900
Fairfield, New Jersey 07007-2900
Office: +1.973.244.2259
Mobile: +1.646.957.2091
Email: mahlerc@asme.org

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Language: English ISBN-10: 1606504266
Pages: 60 ISBN: 9780791859773
Shipping Weight: 8.6 ounces

Language: English ISBN-10: 1606504274
Pages: 248 ISBN: 9780791859780
Shipping Weight: 15.2 ounces

This volume presents a detailed overview of various physicochemical properties, preparation techniques and analytical tools for characterizing these systems. The mechanisms of cellular internalization of nanomaterial based targeted systems is also emphasized upon. Various challenges posed during the development, scale up and large-scale production in discussed. A brief overview pertaining to the regulatory requirements and commercialization of these systems is also included. Taking lead from various successful case studies, the monograph provides a bird’s eye view on the current advances in the field of nanomaterial based biomacromolecular delivery. Concisely, this volume acts as a ready reckoner for drug delivery scientists working in this area.

Photodynamic Therapy Mediated by Fullerenes and their Derivatives
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List $89.95
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**Biomedical Engineering**

**Chitosan and Its Derivatives as Promising Drug Delivery Carriers**
By M. Prabaharan

- Chitosan, a natural based polymer obtained by alkaline deacetylation of chitin, is non-toxic, biocompatible, and biodegradable. These properties make chitosan a good candidate for the development of conventional and novel drug delivery systems. Recently, there has been a growing interest in the chemical modification of chitosan in order to improve its solubility and widen its applications. This new monograph in the ASME-Momentum Press series on Biomedical & Nanomedical Technologies shows how chemical modification of chitosan is useful for promising materials for the controlled delivery of various types of therapeutic agents.

**Silica Nanoparticles as Drug Delivery System for Immunomodulator GMDP**
By E. V. Parthenyuk, N.A. Aiyoshina, Yu S. Antstilova, and N. Yu. Sof’ikova

- The purpose of this book is to present the recent research and development of silica nanoparticle drug delivery systems for immune modulator agents, glycosaminyl muramyldipeptides (N-acetylglucosaminyl-N-acetylmuramy1-L-alanyl-D-isoglutamine) or GMDP, which is the main component of bacterial wall with known target of action through NOD2 receptors, with an overlook to their applications for treatment of endometriosis, which often results in infertility. Silica-based nanoparticles have generated a significant amount of interest because of their inherent properties.

**Mobile Wearable Nano-Bio Health Monitoring Systems with Smartphones as Base Stations**
By Vijay K. Varadan and Linfeng Chen

- Abstract: This monograph discusses the development and application of mobile wearable nano-bio health monitoring systems for telemedicine. In such a system, nanomaterial-based biosensors are used to measure physiological signals, such as electrocardiogram (ECG), electroencephalogram (EEG), electromyogram (EMG), and electrooculogram (EOG). The obtained physiological signals are filtered, amplified and transmitted to a remote storage server, utilizing Smartphones as the base stations. Cloud computing resources are used for complex computations, such as feature extraction and automatic diagnosis. The information in the remote storage server can be instantly accessed by healthcare providers, and the medical advice can also be sent instantly to the patient through the wireless communication system.

**Design Engineering**

**GD&T Update Guide: ASME Y14.5-2009: Changes, Improvements, and Clarification (Spiral Bound)**
By Bryan Fischer

- This expertly written guide discusses the principal changes and improvements in the ASME Y14.5-2009 standard.
- Changes in the structure, philosophy, expansion of scope, and the overall intent of the new revision are discussed.
- New terms, definitions, symbols, rules, feature types, tools, techniques, approaches, and changes made to each section of the standard are also discussed.

**Handbook on Stiffness and Damping in Mechanical Design**
By Eugene I. Rivin

- This fully updated Handbook contains new results and adds some significant modifications, most notably a new section on “Negative Stiffness and Damping,” which is critical for understanding dynamic processes in mechanical systems. The book will be useful for practicing engineers working in the field of machine design, design of machine elements, machine dynamics, mechatronics, robotics and precision engineering.

**Geometric Dimensioning and Tolerancing Visual Glossary—With GD&T At-A-Glance™ Sheets**
By Bryan Fischer

- A must-have for anyone who needs to understand Geometric Dimensioning and Tolerancing.
- This booklet includes terminology from both ASME Y14.5M-2009, as well as a few topics from ASME Y14.41-2003.
- New terms, definitions, symbols, rules, and changes made to each section of the standard are also discussed.
**Energy and Power Generation Handbook: Emerging and Established Technologies**
K.R. Rao, Editor

- This comprehensive reference contains contributions by over 50 experts from around the world.
- Cover aspects of power generation from all known sources of energy around the globe, including solar, wind, hydro, tidal and wave power, bio-energy (including bio-mass and bio-fuels), waste-material, geothermal, fossil, petroleum, gas and nuclear.
- Nanotechnology and the role of NASA in photovoltaic and wind energy are also covered.

**Energy Choices: A Guide to Facts and Perspectives**
Keith Thayer (Author, Editor), Phil Grossweiler (Author, Editor)

- This booklet is intended to give the reader some information to better understand the complexities of the energy world and its ongoing evolution.
- It is directed at the general public and other stakeholders who want more knowledge of energy sources, energy conversion, and energy end use and their challenges and limitations.
- Available in sets of 10 for a discount price of $7.50 per copy ($75 total).

By Merwaner P. Boyce

- This comprehensive Handbook has been fully updated and expanded. It covers all major aspects of power plant design, operation, and maintenance.
- The second edition includes an updating of the technology, and also introduces new subjects such as Carbon Sequestration Technology, Chemical Treatment of Water used in Combined Cycle Power Plants, and extended treatments on Steam Turbines and Heat Recovery Steam Generators.
- The book has many special features which include comparison of various energy systems, latest cycles and power augmentation and improved efficiency techniques.

**Engineering Management**

- **Thriving in the 21st Century Economy: Transformational Skills for Technical Professionals**
By K. Subramaniam and U.S. Rangan

  - In this book, the authors advise an alternative approach to career development for science, technology, engineering, and mathematics (STEM) professionals.
  - The authors believe that self-help is the best help and how technical professionals should take ownership of their future in a strategic way -- just as businesses and corporations have to rely on a strategic approach for long-term survival and success.
  - The authors incorporate concepts of systems thinking, as well as global knowledge, to develop strategic solutions to identified industry needs.

  **Publisher:** ASME  
  **Product Dimensions:** 0.4 x 6.2 x 9 inches  
  **Publish Date:** 2013  
  **Order No.:** 860/168  
  **Shipping Weight:** 2.8 pounds  
  **ISBN:** 9780791860017  
  **Language:** English  
  **(available in eBook)**

- **Practical Application of Reliability Engineering: An Effective Approach to Managing Dependability in Technological and Evolving Systems**
By Thomas Van Hardeveld & David Kiang

  - This book provides a wealth of practical knowledge and industry best practices to address dependability management and engineering issues with helpful guidance and checklists from a system life cycle perspective, hence making this book a valued asset as a comprehensive desk-top reference. The topics presented in this book highlight the essence of life cycle management practices and systematic cost-effective solutions focusing on dependability performance characteristics for project risk avoidance and failure prevention. The dedicated chapters of relevant dependability topics are organized and structured to facilitate easy comprehension that would appeal to educators to use this as an instructor’s textbook to train new dependability engineers.

  **Publisher:** ASME  
  **Product Dimensions:** 0.8 x 7.1 x 10 inches  
  **Publish Date:** 2012  
  **Order No.:** 800/104  
  **Shipping Weight:** 1.6 pounds  
  **Pages:** 388  
  **ISBN:** 9780791890014  
  **Language:** English  
  **(available in eBook)**

- **Knowledge Tornado: Bridging the Corporate Knowledge Gap, Second Edition**
By Marcus Goncalves

  - This new Second Edition includes a completely new chapter on cloud computing.  
  - Working in a company (Electric Generation) in which the current demographics will require replacement of 70% of the workforce over a 5 to 7 year period due to retirements, it is very clear that in order to stay competitive in the heavily regulated industry, we must create a well-defined learning agenda that will transfer the knowledge of our workers.

  **Publisher:** ASME  
  **Product Dimensions:** 0.9 x 6.2 x 0.6 inches  
  **Publish Date:** 2012  
  **Order No.:** 997/522  
  **Shipping Weight:** 12.6 ounces  
  **Pages:** 200  
  **Language:** English

- **Taguchi Methods: Benefits, Impacts, Mathematics, Statistics, and Applications**
By Teruo Morii, translated by Shih-Chung Tsai  
Foreword by Dr. Genichi Taguchi

  - New translation from the Japanese edition, a unique and practical book is unlike others in robust design.
  - The expert author describes how to conduct robust technology development in a time- and cost-efficient manner, as originated by Dr. Taguchi in the early 1990s.
  - Includes all aspects for the development of robust technology and robust products: quality philosophy, quality strategies/ planning, management and organization, robust design methods/ tools, and real-life case studies from industry.

  **Publisher:** ASME  
  **Product Dimensions:** 0.9 x 6.2 x 1.9 inches  
  **Publish Date:** 2011  
  **Order No.:** 859698  
  **Shipping Weight:** 2.8 pounds  
  **Pages:** 660  
  **ISBN:** 9780791896698  
  **ISBN-13:** 9780791860014  
  **Language:** English  
  **(available in eBook)**

- **Knowledge Gap, Second Edition**
By Marcus Goncalves

  - A unique and practical book is unlike others in robust design.

  **Publisher:** ASME  
  **Product Dimensions:** 0.9 x 6.2 x 0.6 inches  
  **Publish Date:** 2012  
  **Order No.:** 997/522  
  **Shipping Weight:** 12.6 ounces  
  **Pages:** 200  
  **Language:** English  
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CURRENT PUBLICATIONS

Engineering Management (continued)

Patent Project Management
By Kirk Teska

- This is a popular topic of critical importance to anyone planning to bring a new technical product to market.
- For all engineers and their managers concerned with product development, patent law and the patent process, but particularly early career engineers who need a basic introduction to the topic.
- A good refresher book for the more experienced Engineer.

Technical Presentation Workbook, Third Edition
By Richard L. Sullivan and Jerry L. Wircenski

- This fully revised third edition includes an entirely new chapter devoted to online presentations.
- Packaged with tips, ideas, and examples, this book consists of proven step-by-step approaches to planning and delivering effective technical presentations.
- Includes information on how to: gear presentations to engineering meetings, briefings, conferences, and training sessions; zero in on a presentation’s topic and purpose; analyze the audience; arrange the room to boost effectiveness; and know your support media options.

Guide to the Engineering Management Body of Knowledge (BOK)

- An authoritative guide to key engineering management principles and practices, this book is divided into eight concise domains of engineering management knowledge, which are further broken down into 46 knowledge areas and 210 sub-knowledge areas.
- An authoritative guide to key engineering management principles and practices, this book is divided into eight concise domains of engineering management knowledge, which are further broken down into 46 knowledge areas and 210 sub-knowledge areas.
- Whether you’re a practicing engineer, an engineering manager, or a trainer of engineers, you’ll find this easy-to-use guide indispensable.

Natural Negotiation for Engineers and Technical Professionals
By James S. Jetton Contributing Author: Brian E. Porter

- A good, easy reading introduction to the topic. I believe the content is a practical, thorough treatment of the subject without getting too theoretical.
- John T. Bozewicz, Past Chair, ASME Management Division, Current Chair, Gantt Medal Committee, and Past Group Leader of ASME’s Engineering & Technology
- An excellent read, no matter if you’re a first-time negotiator or a seasoned one; this book puts it all out there for anyone to be able to read and understand how to be a better negotiator.... The typical negotiations section
- The reader is also made aware of the emerging trends in electronic packaging technology.
- This book provides the basic essentials and fundamentals of electronic packaging technology.
- It introduces the language and terminology, as well as the building blocks of all information processing technology such as: Printed wiring boards and laminates
- The reader is also made aware of the emerging trends in electronic packaging to prepare him or her for the near-term miniaturization and integration of technology trends.

Essentials of Electronic Packaging: A Multidisciplinary Approach
By Puligandla Venkataraman

- This book is developed to serve many types of readers. For graduate students, this book will guide them with practical approaches to solve real world problems that are of vast complexity. For professionals, this book will provide them with valuable and resourceful references.
- A comprehensive book that addresses both thermal and mechanical challenges as well as energy efficiency in the design of all types of telecommunications equipment, including indoor and outdoor systems.
- This book places a great deal of emphasis on providing practical solutions to the current challenges facing today's telecommunications Industry. Materials presented in the book are based on actual cases in design of all types of telecommunications equipment.
- This book is developed to serve many types of readers. For graduate students, this book will guide them with practical approaches to solve real world problems that are of vast complexity. For professionals, this book will provide them with valuable and resourceful references.

Heat Transfer and Electronic Packaging
Thermal Management of Telecommunications Equipment
By Lian-Tsu Yeh and Richard C. Chu

- This book is developed to serve many types of readers. For graduate students, this book will guide them with practical approaches to solve real world problems that are of vast complexity. For professionals, this book will provide them with valuable and resourceful references.
- A comprehensive book that addresses both thermal and mechanical challenges as well as energy efficiency in the design of all types of telecommunications equipment, including indoor and outdoor systems.
- This book places a great deal of emphasis on providing practical solutions to the current challenges facing today's telecommunications Industry. Materials presented in the book are based on actual cases in design of all types of telecommunications equipment.

Pipelines and Pressure Vessels

Power Piping: The Complete Guide to ASME B31.1
By Charles Becht IV

Mechanics of Drillstrings and Marine Risers
By Don W. Dearing

• This comprehensive professional reference book and training tool covering hydrocarbon liquid pipeline systems, including pipeline and appurtenance design, hydraulics design, pumping, and storage/terminal facilities design, as well as operation and maintenance. Both high and low vapor facilities designs, as well as operation and maintenance of gas and liquid pipeline systems.

Pipelines and Pressure Vessels (continued)

Quick Guide to API 653 Certified Storage Tank Inspector Syllabus: Example Questions and Worked Answers
By Clifford Matthews

• Reviews one of API’s three main individual Certification Programs (ICPs): API 653: Certified storage tank inspector.
• Discusses key definitions and scope, inspection regimes and testing techniques relating to tank design, linings, welds, protection systems, repair and alteration.
• Provides an important resource for these API programs, which are well established in the oil/gas/petroleum industries.

Quick Guide to API 510 Certified Pressure Vessel Inspector Syllabus: Example Questions and Worked Answers
By Clifford Matthews

• The API Individual Certification Programs (ICPs) are well established worldwide in the oil, gas, and petroleum industries.
• This Quick Guide is unique in providing simple, accessible and well-structured guidance for anyone studying the API 510 Certified Pressure Vessel Inspector syllabus.
• Summarizing and helping them through the syllabus.
• Providing multiple example questions and worked answers.

By John R. MacKay and James T. Pillow, Founding Authors: Martin D. Bernstein and Lloyd W. Yoder

• A completely revised and updated edition of the classic and comprehensive guide to the Construction rules for power boilers.
• Includes explanation and use of the other Sections of the ASME Boiler and Pressure Vessel Code that affect construction.
• With chapters on boiler life extension and repairs and alteration of boilers under the rules of the National Board Inspection Code. 
• Current to the 2010 Edition of Section I.

Pipeline Operation and Maintenance: A Practical Approach, Second Edition
By Mo Mohitpour, Thomas Van Hardeveld, Warren Peterson, Jason Szabo

• Providing multiple example questions and worked answers.

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By Charles Becht IV |
| **Mechanics of Drillstrings and Marine Risers**  
By Don W. Dearing |
| **Pipelines and Pressure Vessels (continued)** |
| **Quick Guide to API 653 Certified Storage Tank Inspector Syllabus: Example Questions and Worked Answers**  
By Clifford Matthews |
| **Quick Guide to API 510 Certified Pressure Vessel Inspector Syllabus: Example Questions and Worked Answers**  
By Clifford Matthews |
By John R. MacKay and James T. Pillow, Founding Authors: Martin D. Bernstein and Lloyd W. Yoder |
| **Pipeline Operation and Maintenance: A Practical Approach, Second Edition**  
By Mo Mohitpour, Thomas Van Hardeveld, Warren Peterson, Jason Szabo |
Guidebook for the Design of ASME Section VIII Pressure Vessels, Fourth Edition

By James R. Farr & Maan H. Jawad

- This book is a fully revised and updated fourth edition of a classic guidebook.
- It covers the current requirements of the newly published VIII-1 as well as the requirements of the newly published VIII-2.
- Guidebook for Design of ASME Section VIII Pressure Vessels provides you with a review of the background issues, reference materials, technology, and techniques necessary for the safe, reliable, cost-efficient function of pressure vessels in the petrochemical, paper, power, and other industries.

Companion Guide to the ASME Boiler and Pressure Vessel and Piping Codes, Fourth Edition—Volume 1

Edited by K.R. Rao

- This is Volume 1 only of the two-volume set.
- Volume 1 contains:
  - Part I: Power Boilers – Sections I & VII of BPV Code
  - Part II: Section II of BPV Code
  - Part III: Section III – Rules for Construction of Nuclear Power Plant Components
  - Part IV: Heating Boilers – Section IV & VI of BPV Code
  - Part V: Section V of BPV Code


Edited by K.R. Rao

- This is Volume 2 only of the two-volume set.
- Volume 2 contains:
  - Part VI: Section VIII – Rules for Construction of Pressure Vessels
  - Part VII: Section IX of BPV Code – Welding and Brazing Qualifications
  - Part VIII: Section X of BPV Code
  - Part IX: Section XI of BPV Code – Rules for In-service Inspection of Nuclear Power Plant Components
  - Part X: Section XII of BPV Code

Design of Hazardous Mechanical Structures, Systems and Components for Extreme Loads

By John D. Stevenson and Ovidiu Coman

- This timely volume addresses the critical issue of safe design of mechanical structures, systems and components belonging to hazardous facilities, in order to withstand the effects of extreme loads.

Companion Guide to the ASME Boiler and Pressure Vessel and Piping Codes, Fourth Edition—Volumes 1 & 2

Edited by K.R. Rao

Order the complete two-volume set and save over $100 off the individual volumes if purchased separately.

This fully updated and revised fourth edition of this classic reference work is current to the ASME BPV Code 2011 Addenda. The fourth edition is being released in a convenient two-volume format that focuses on all twelve sections of the ASME Code, as well as relevant piping codes. Several chapters have new authors and are entirely new, while others have been extensively re-written for this edition. Hardcover, two-volume set

Fluid Mechanics, Water Hammer, Dynamic Stresses, and Piping Design

By Robert A. Leidner

- This text is intended for practicing engineers in the power and process piping areas who are concerned with the design, performance, and safety of piping equipment and components; specifically the identification, risk assessment, and prevention of water hammers in water, liquid, and steam piping systems. Relevant industries include power companies and utilities, pressure technology, valve and pipe manufacturers, and petrochemical processing facilities. Overall, the text integrates multiple structural and fluids engineering disciplines to illustrate the principles of troubleshooting pipe systems for fluid flow problems and pipe failures.