



# Catalog 2017

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- Materials Science
- Mathematics
- Physics

**NY** RESEARCH  
P R E S S

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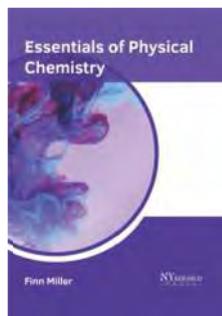
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## Physical Chemistry

**Finn Miller**

ISBN: 978-1-63238-552-9

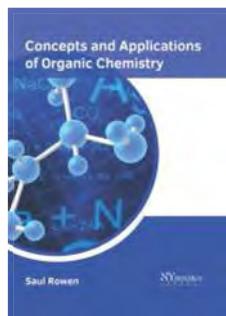
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Hardback



## Organic Chemistry

**Saul Rowen**

ISBN: 978-1-63238-551-2

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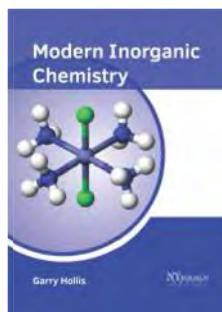
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## Essentials of Physical Chemistry

This book is an essential guide for both academicians and those who wish to pursue their interest in physical chemistry. Physical chemistry focuses on understanding chemical systems with respect to the diverse principles of physics. Different approaches, evaluations, methodologies and advanced studies on physical chemistry have been included herein. This book is compiled in such a manner that it will provide in-depth knowledge about the theory and practice of this field. It will serve as a reference to a broad spectrum of readers. With its detailed analyses and data, this book will prove immensely beneficial to professionals and students involved in physical chemistry at various levels.

## Concepts and Applications of Organic Chemistry

Since twentieth century, organic chemistry emerged and has been rapidly expanding throughout without deceleration in the progress of this field. Foundations of medicine and biotechnology are built on organic compounds. It is contributing to the research in medicinal chemistry, polymer chemistry, as well as several aspects of materials science. This book discusses the fundamentals and concentrates on the applications of organic chemistry. It presents the concepts and applications in a concise manner for a better understanding of the subject. Students, researchers, experts and all associated with organic chemistry will benefit alike from this book.



## Inorganic Chemistry

**Garry Hollis**

ISBN: 978-1-63238-548-2

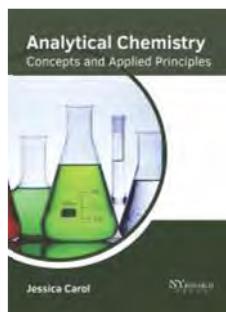
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## Analytical Chemistry

**Jessica Carol**

ISBN: 978-1-63238-547-5

\$134.99 US

Year 2017

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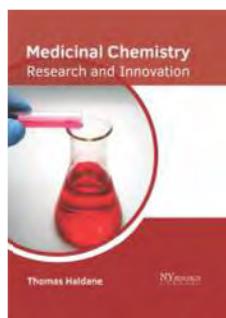
Hardback

## Modern Inorganic Chemistry

Inorganic chemistry is the study of inorganic compounds and their corresponding chemical reactions. Inorganic chemistry has been implemented in the industrial sector as well the agricultural sector. Bioinorganic compounds, organometallic compounds, cluster compounds are some of the popularly studied chemical compounds in this discipline. This book on modern inorganic chemistry focuses on the latest research that is taking place in this field. Topics are well-explained and follow a systematic approach of analysis. This book is a compilation of the latest studies and emerging trends that have accrued in this field. The book presents chapters that are relevant for the theory as well as practice of inorganic chemistry. It will serve as a vital source of reference to students and scholars alike.

## Analytical Chemistry: Concepts and Applied Principles

Analytical chemistry seeks to study the fundamental aspects of matter. It uses rigorous scientific methods to extract, study and analyse the objects of its research. This book on analytical chemistry explains the fundamental concepts of the field and the methods through which properties of matter are analysed and examined. The research that has been included in this book closely analyses the technical aspects of the field and enumerates the various applied principles and technology that have been developed within this discipline. The extensive content of this book provides the readers with a thorough understanding of the subject. Scientists and students actively engaged in this field will find this book full of crucial and unexplored concepts.



## Medicinal Chemistry

**Thomas Haldane**

ISBN: 978-1-63238-549-9

\$134.99 US

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Book Size: 8.5"x11"

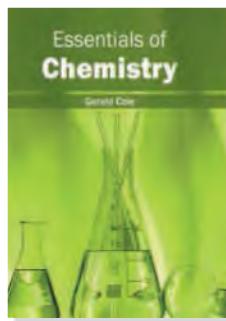
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## Medicinal Chemistry: Research and Innovation

Medicinal chemistry is the research and study of drug design and development. It is a synthesis of organic chemistry and pharmacology. Research in medicinal chemistry focuses on the discovery of new drugs as well as improvements on older therapeutic drugs. Topics included in this text discuss the synthesis of new chemical elements to transform them into medicinal products. This book is a valuable compilation of topics ranging from the basic to the most complex advancements in this field. It aims to present researches that have transformed this discipline and aided its advancement. As this field is emerging at a fast pace, this book will help the readers to better understand the concepts of medicinal chemistry. With state-of-the-art inputs by acclaimed experts of this field, this book targets students and professionals.





## Chemistry

**Gerald Cole**

ISBN: 978-1-63238-486-7

\$149.99 US

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Book Size: 8.5"x11"

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Hardback

## Textbook of Chemistry

Gerald Cole



## Chemistry

**Gerald Cole**

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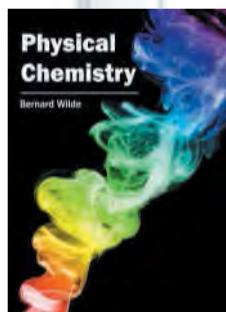
Hardback

## Textbook of Chemistry

Chemistry is the branch of science which studies the composition, structure, and properties of all the matter around us. Chemistry is an umbrella discipline which comprises of organic chemistry, inorganic chemistry, physical chemistry, biochemistry and many other subfields. Modern day chemistry is much more advanced; it finds its applications in many areas such as, manufacturing of dyes, medicines, fertilizers, detergents, preservatives, etc. This book traces the progress of this field and highlights some of its key concepts and applications. For all those who are interested in learning the concepts of chemistry, it will prove to be an essential guide. This book aims to serve as a valuable source of reference for engineers, scholars, researchers and students across the globe.

## Essentials of Chemistry

Chemistry is a branch of science which studies the composition, structure, and properties of all the matter around us. Chemistry is an umbrella discipline which comprises of organic chemistry, inorganic chemistry, physical chemistry, biochemistry and many other subfields. Modern day chemistry is much more advanced; it finds its applications in many areas such as, manufacturing of dyes, medicines, fertilizers, detergents, preservatives, etc. This book traces the progress of this field and highlights some of its key concepts and applications. For all those who are interested in learning the concepts of chemistry, it will prove to be an essential guide. This book aims to serve as a valuable source of reference for engineers, scholars, researchers and students across the globe.



## Physical Chemistry

**Bernard Wilde**

ISBN: 978-1-63238-488-1

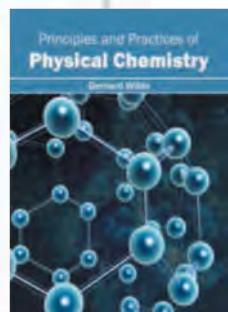
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## Physical Chemistry

**Bernard Wilde**

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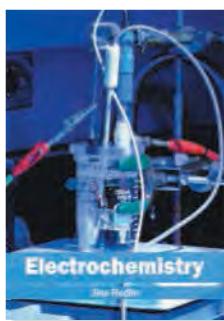
## Principles and Practices of Physical Chemistry

Physical chemistry refers to that branch of chemistry which combines physical and chemical studies to deduce the physical properties of molecules and how these affect their chemical properties and bonding characteristics. It collaborates many branches like electrochemistry which studies the ways ions, electrons bond under electrical current, thermochemistry which is the study of why heat is produced in a reaction, spectroscopy which refers to the study of radiation emitting matter and chemical kinetics which is the study of the speed of a chemical reaction, etc. This book provides comprehensive insights into this field. It gives detailed explanations of all the various branches of this subject and their applications. It presents researches and studies performed by experts across the globe. In this book, using case studies and examples, constant effort has been made to make the understanding of the difficult concepts of physical chemistry as easy and informative as possible, for the readers. It will prove to be a beneficial reference guide for researchers and students alike.

## Physical Chemistry

Physical chemistry utilizes the principles of physics to study atomic, subatomic, macroscopic and particulate phenomena. Intermolecular forces, reaction kinetics, surface chemistry, electrochemistry, thermodynamics, colligative properties, electrochemical cells are some of the topics covered under this discipline. This book is a complete source of knowledge on the present status of this important field. The ever growing need of advanced technology is the reason that has fueled the research in this field in recent times. It is a vital tool for all researching or studying in the field of physical chemistry as it gives incredible insights into emerging trends and concepts.

# Chemistry



## Electrochemistry

Jina Redlin

ISBN: 978-1-63238-512-3

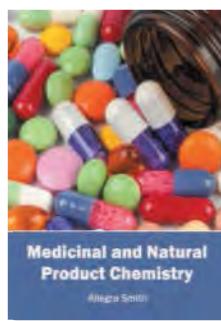
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## Organic chemistry

Allegra Smith

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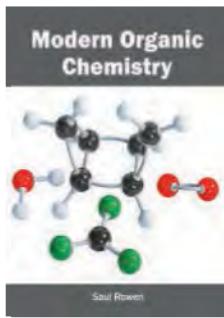
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## Electrochemistry

Electrochemistry is the branch of physical chemistry that deals with the movement of charges between electrodes and electrolyte. The topics covered under this discipline are oxidation, reduction, redox reactions, electrochemical cells, electrode potential, electrolysis, etc. It has a wide variety of applications like coating of objects with metal oxides and metals, detection of alcohol, etc. The topics included in this book on electrochemistry are of utmost significance and bound to provide incredible insights to readers. The chapters presented herein deal with the core concepts of electrochemistry. From theories to research to practical applications, case studies related to all contemporary topics of relevance to this field have been included in this book. It is a resource guide for experts as well as students.

## Medicinal and Natural Product Chemistry

Medicinal and natural product chemistry is generally considered as a discipline concerned with biological molecules but it is essentially the chemistry of carbon compounds. A large number of organic compounds are either derived or completely synthesized in laboratories. This book discusses many such advanced compounds, their manufacturing processes, structures and properties. Some of the topics included are drug design to combinatorial synthesis and parallel synthesis, applications of compound collections, compound preparation, molecular diversity assessments, etc. The ever growing need for advanced technology is the reason that has fueled the research in this field in recent times. Such selected concepts that redefine medicinal and natural product chemistry have been presented in this book. The extensive content presented in the book provides the readers with a thorough understanding of this subject. It will serve as a resource guide for professionals, researchers and students engaged in this field.



## Organic chemistry

Saul Rowen

ISBN: 978-1-63238-484-3

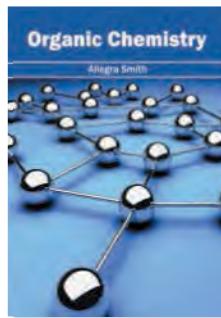
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## Organic chemistry

Allegra Smith

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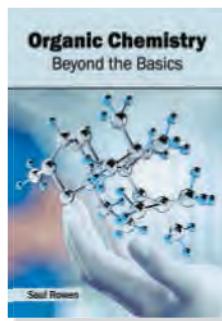
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## Modern Organic Chemistry

Organic chemistry refers to the scientific study of the compounds which have carbon bonds. Organic compounds also have oxygen, nitrogen, chlorine, bromine or sulphur. Their study incorporates examining their structure, composition, properties, bonding and reactions. Modern organic chemistry uses many different techniques to study organic compounds like nuclear magnetic resonance (NMR) spectroscopy which deals with atom connectivity, elemental analysis which refers to deduction of elemental composition of a molecule, mass spectrometry which is the study of molecular weight and pattern of its structure, crystallography which deals with finding molecular geometry, etc. This book will trace the progress made in this field and its sub-fields and also highlight some of the key theories and their applications. It will unfold the innovative aspects of this area. Those with an interest in this subject will find this book helpful. It will serve as a valuable guide for students and researchers alike. It will also help new researchers by foregrounding their knowledge in this field.

## Organic Chemistry

Carbon with its unique characteristic properties has the ability to form uncountable number of compounds. Its compounds exist in abundance naturally as well as can be synthesized in a laboratory. The branch of chemistry that deals with carbon and its various compounds is termed as organic chemistry. It is an ever evolving discipline. Carbon compounds are used as raw material in industries like medicine, polymers, paints and pigments, agriculture, etc. This book discusses fundamental as well as modern approaches of organic chemistry. It strives to provide a fair idea about this subject and to help develop a better understanding of the latest advances within this field. It delves into the properties of matter, evaluation methods and techniques to understand the behaviour and reactions of organic compounds. It is a beneficial guide for professionals, researchers and students associated with this field.



## Organic chemistry

**Saul Rowen**

ISBN: 978-1-63238-490-4

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Inorganic Chemistry  
Garry Hollis

## Inorganic Chemistry

**Garry Hollis**

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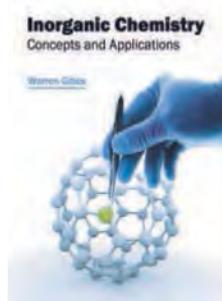
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## Organic Chemistry: Beyond the Basics

Carbon is the most unique element present in the periodic table. It has unique properties like tetravalency and concatenation which makes it capable of forming uncountable number of compounds. Organic chemistry exclusively deals with carbon and its compounds. This book discusses various important aspects of this field such as spectroscopy, fluorescent molecules and dyes, organo-metallics, polymers, surfactants, synthesis of reagents, etc. From theories to research to practical applications, case studies related to all contemporary topics of relevance to this area have been included in it. With state-of-the-art inputs by acclaimed experts of this field, this book targets students and professionals.

## Inorganic Chemistry

Inorganic chemistry deals with the structure and properties of a vast array of inorganic and organometallic compounds present in the periodic table. It covers all chemical compounds except organic compounds. This book discusses many existing and advanced applications of this field. This book studies, analyses and upholds the pillars of inorganic chemistry. It glances at recent scientific and technological advances in this field that have future implications. The topics included in this book are of utmost significance and bound to provide incredible insights to readers. Scientists and students actively engaged in this field will find this book full of crucial and unexplored concepts.



## Inorganic Chemistry

**Warren Gibbs**

ISBN: 978-1-63238-472-0

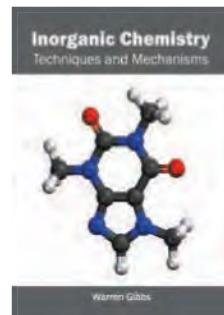
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## Inorganic Chemistry

**Warren Gibbs**

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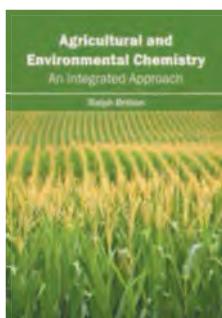
## Inorganic Chemistry: Concepts and Applications

Inorganic chemistry is the study of compounds that do not contain carbon-hydrogen bonds. These compounds can be categorized into acids, bases, salts and oxides. Their study incorporates examining their composition, analysis, reactions, structure and properties. There are many sub-fields of inorganic chemistry like descriptive inorganic chemistry which deals with classifying compounds based on their properties, theoretical inorganic chemistry which is the study of bonding simple and complex molecules, thermodynamics and inorganic chemistry which focuses on the energy released during a reaction and mechanistic inorganic chemistry which refers to the study of reaction pathways, etc. This book will discuss in detail the applications and concepts of this field. This book contains some path-breaking studies in the field of inorganic chemistry and unfolds the innovative aspects of this field. It includes the experiments performed across the globe. Therefore, it will serve as a valuable source of reference for students and researchers alike.

## Inorganic Chemistry: Techniques and Mechanisms

This book provides comprehensive insights into the field of inorganic chemistry. It aims to present researches that have transformed this discipline and aided its advancement. Inorganic chemistry has a wide array of applications in areas like manufacturing drugs, surfactants, paints and pigments, coatings, alloys, industrial chemicals, etc. Some of the topics discussed in this extensive book are cluster compounds, coordination compounds, crystallographic aspects of materials, descriptive inorganic chemistry, industrial inorganic chemistry, inorganic biochemistry, organometallic compounds, solid state compounds, inorganic materials, etc. Scientists and students actively engaged in this discipline will find this book full of crucial and unexplored concepts. It compiles researches and studies performed by experts from all across the globe to provide innovative insights to the readers.

# Chemistry



## Environmental Chemistry

**Ralph Britton**

ISBN: 978-1-63238-467-6

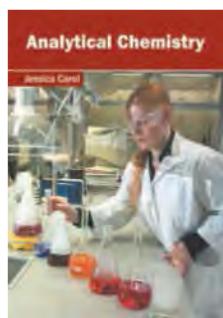
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## Analytical Chemistry

**Jessica Carol**

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## Agricultural and Environmental Chemistry: An Integrated Approach

This book provides detailed information about the fields of agricultural and environmental chemistry. Agricultural chemistry deals with all the aspects of agricultural production, processing of raw materials, environmental monitoring and evaluation whereas, environmental chemistry studies the chemical and biochemical phenomena occurring in nature. Agricultural chemistry often aims at improving the fertility of the soil which is a major issue in the present times. On the other hand, environmental chemistry chiefly explains the effect of human activities on soil. Both these fields are closely associated and often contribute to the research and progress of each other. They have become crucial in today's context due to rapidly changing environmental patterns. The exclusive studies included in this book provide an in-depth knowledge of the developments in this field. It is a valuable source of information for professionals and students involved in this area of science.

## Analytical Chemistry

This book aims to shed light on some of the unexplored aspects of analytical chemistry and the recent researches in this field. Although analytical chemistry is a part of all the branches of chemistry; it is studied as an independent discipline. It gives both quantitative and qualitative information about matter. It is focused on improvements in measurement tools to provide accuracy and precision. The topics covered in this extensive book deal with the core areas of analytical chemistry. There has been rapid progress in this field and its applications are finding their way across multiple industries. Those in search of information to further their knowledge will be greatly assisted by this book.



## Analytical Chemistry

**Sherley Benson**

ISBN: 978-1-63238-470-6

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## Analytical Chemistry

**Jessica Carol**

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\$155.00 US

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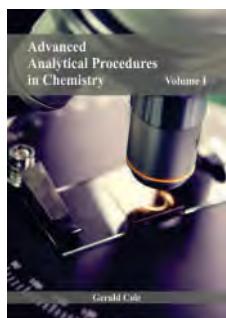
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## Analytical Chemistry: Concepts and Applications

This book offers information regarding analytical chemistry provided by established academic experts in this field. Analytical chemistry mainly deals with the quantitative as well as qualitative aspects of a substance. It provides extensive knowledge about the structure, composition, as well as the quantity of all the constituents present in a particular matter. Analytical chemistry has been extremely useful since the early days as it helped scientists in separating and identifying various compounds and elements. Modern analytical chemistry has dominated the industry for many years and continues to do so, for example, recent discoveries in this field have made it possible for the pharmaceutical industry to develop more cost-effective ways of treatment. This book outlines the tools, techniques and applications of analytical chemistry in detail. It presents contributions made by international experts that will provide innovative insights into this field.

## Analytical Chemistry: Tools, Techniques and Applications

Analytical chemistry refers to that branch of chemical studies which studies the composition and characterization of matter, both quantitatively and qualitatively. It studies the methods, instruments and tools used to separate and identify matter. The aim of analytical chemistry is to form new methods to measure the chemical phenomena. This book outlines the processes and applications of analytical chemistry. It provides comprehensive insights into this field. The topics included in this book are of utmost significance and are bound to provide incredible knowledge to the readers. It strives to provide a fair idea about this discipline and to help develop a better understanding of the latest advances made within this area. It will serve as a valuable source of reference for engineers, scientists, researchers and students engaged in the field of analytical chemistry.



## Chemistry

**Gerald Cole**

ISBN: 978-1-63238-006-7

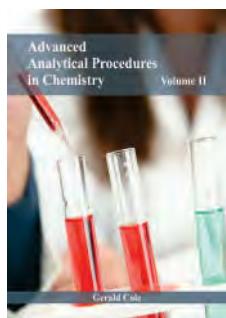
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## Chemistry

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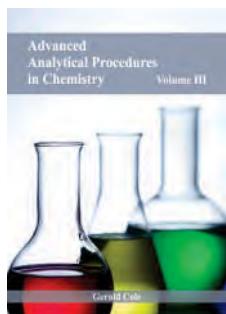
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## **Advanced Analytical Procedures in Chemistry: Volume I**

Analytical chemistry has emerged as a significant field for research. It aids the progress of chemistry and makes it easier to understand the diverse properties of various compounds. This book presents the most up-to-date data and latest researches to help the readers keep pace with this rapidly advancing field of study. It also aims to help students, researchers, scientists and others to gain a better understanding of the subject and comprehend the new technologies and methods of analytical chemistry.

## **Advanced Analytical Procedures in Chemistry: Volume II**

Analytical chemistry has emerged as a significant field for research. It aids the progress of chemistry and makes it easier to understand the diverse properties of various compounds. This book presents the most up-to-date data and latest researches to help the readers keep pace with this rapidly advancing field of study. It also aims to help students, researchers, scientists and others to gain a better understanding of the subject and comprehend the new technologies and methods of analytical chemistry.



## Chemistry

**Gerald Cole**

ISBN: 978-1-63238-008-1

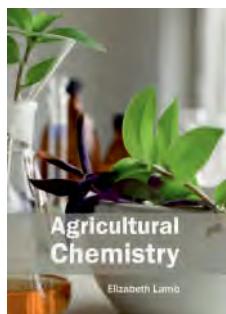
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## Chemistry

**Elizabeth Lamb**

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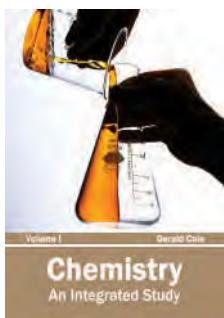
## **Advanced Analytical Procedures in Chemistry: Volume III**

Analytical chemistry has emerged as a significant field for research. It aids the progress of chemistry and makes it easier to understand the diverse properties of various compounds. This book presents the most up-to-date data and latest researches to help the readers keep pace with this rapidly advancing field of study. It also aims to help students, researchers, scientists and others to gain a better understanding of the subject and comprehend the new technologies and methods of analytical chemistry.

## **Agricultural Chemistry**

The science of agricultural chemistry has been illuminated in this comprehensive book. It is a compilation of original contributions by various researchers connected with specific subjects in agricultural chemistry. The areas that have been discussed in this book are; classification and labeling of active substances in plant protection products, environmental and stress plant physiology and behavior, antimicrobial and antioxidant potential of plant extracts, and pollutant examination and effects. This book will prove itself to be beneficial for academic researchers and for agriculturalists.

# Chemistry



Chemistry

Gerald Cole

ISBN: 978-1-63238-079-1

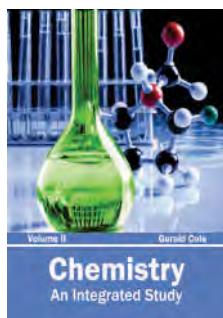
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Chemistry

Gerald Cole

ISBN: 978-1-63238-080-7

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## Chemistry: An Integrated Study

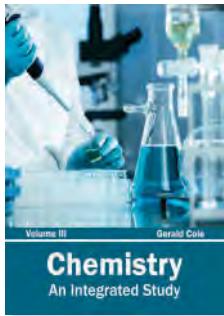
### Volume I

This book is focused on some of the most advanced concepts of chemistry. It contains scientific topics reflecting concepts of chemistry which are directly related to its applications in different fields of science. Few topics included in this book discuss the latest techniques and new concepts from across the globe, which are set to take the discipline to a next level. This book will help the readers gain a better understanding of the advancements of this field and facilitate their learning.

## Chemistry: An Integrated Study

### Volume II

This book is focused on some of the most advanced concepts of chemistry. It contains scientific topics reflecting concepts of chemistry which are directly related to its applications in different fields of science. Few topics included in this book discuss the latest techniques and new concepts from across the globe, which are set to take the discipline to a next level. This book will help the readers gain a better understanding of the advancements of this field and facilitate their learning.



Chemistry

Gerald Cole

ISBN: 978-1-63238-081-4

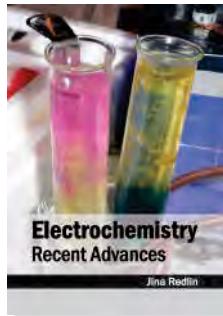
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Chemistry

Jina Redlin

ISBN: 978-1-63238-122-4

\$90.00 US

Year 2015

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Hardback

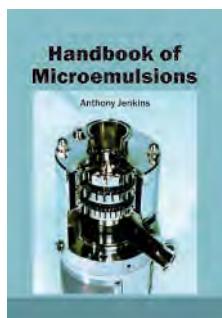
## Chemistry: An Integrated Study

### Volume III

This book is focused on some of the most advanced concepts of chemistry. It contains scientific topics reflecting concepts of chemistry which are directly related to its applications in different fields of science. Few topics included in this book discuss the latest techniques and new concepts from across the globe, which are set to take the discipline to a next level. This book will help the readers gain a better understanding of the advancements of this field and facilitate their learning.

## Electrochemistry: Recent Advances

This book consists of comprehensive information regarding advanced electrochemistry, outlining the physical phenomena instead of the mathematical formalisms of electrochemistry. It provides detailed information regarding this extensive field analyzing its applications and encompasses various topics like cyclohexane-based liquid-biphasic systems for organic electrochemistry, quantitative segregation of an adsorption effect in the form of defined current probabilistic reactions for catalyzed/inhibited electrode procedures, etc. The aim of this book is to serve as a useful source of reference for chemists, material scientists, physicists, surface scientists, engineers, and especially electrochemists.



## Chemistry

### Anthony Jenkins

ISBN: 978-1-63238-255-9

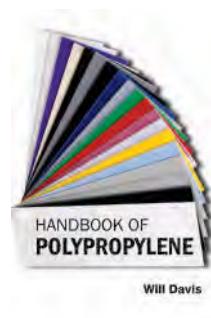
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## Chemistry

### Will Davis

ISBN: 978-1-63238-267-2

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296pp./Colored

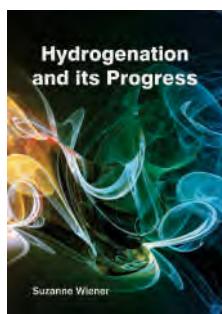
Hardback

## Handbook of Microemulsions

This book presents an overview on the various aspects of fundamentals and applications of microemulsions. The increasing utility of microemulsions across various spheres has kept research work in this relatively older field of study to continue at a steady pace. Scientists across various domains are still extremely keen on research in this field. This book brings forth an evaluation of key factors that affect various traits and performance of the microemulsions, including their primary kinds of uses. Various facets and functions of microemulsions and modeling investigations on microstructure and phase behavior of these systems have been discussed. Discussions on uses of diverse kinds of microemulsions, namely, use in drug delivery, vaccines, oil industry, preparation of nanostructured polymeric, metallic and metal oxides materials for different applications have also been provided in this book.

## Handbook of Polypropylene

Polypropylene is extensively used in packaging, textiles, equipment manufacturing and other areas. This book is a compilation of researches based on polypropylene, accomplished by experts around the globe over five decades. It demonstrates the various developmental stages that polypropylene has undergone. This book also consists of some current polypropylene theories. The book encompasses the various applications of polypropylene in diverse scientific fields. It intends to provide concise and well-compiled information related to polypropylene to its readers.



## Chemistry

### Suzanne Wiener

ISBN: 978-1-63238-291-7

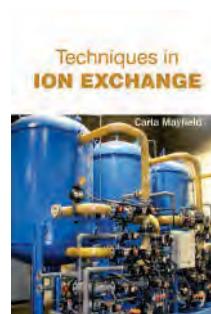
\$145.00 US

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Book Size: 6"x9"

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## Chemistry

### Carla Mayfield

ISBN: 978-1-63238-434-8

\$154.99 US

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Book Size: 6"x9"

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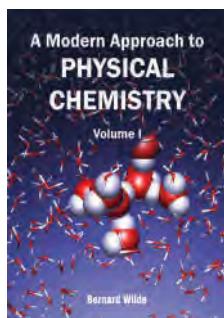
## Hydrogenation and its Progress

The progress in hydrogenation along with its introduction has been provided in this book. The sphere of catalytic hydrogenation is developing very rapidly, mirroring the vast area of chemical uses that can be improved by the simple utility of molecular hydrogen. Due to evolution in the characterization schemes and their use, our comprehension of the catalytic procedure and mechanisms occurring in homogeneous and heterogeneous catalysis has significantly increased. This book aims at providing a general outlook on the progress of hydrogen reactions. The book encompasses a set of reviews on the matters of heterogeneously and homogeneously catalyzed hydrogenation reactions. This book talks elaborately about the hydrogenation reactions in fine organic chemistry, hydrogenation reactions in ecological chemistry and inexhaustible power, and particular matters in hydrogenation.

## Techniques in Ion Exchange

This book gives comprehensive knowledge regarding the technological development of the applications of ion exchange in industrial procedures. Chromatography is an essential topic discussed in this book. The book also elucidates the experiments which allow new designing for nanomaterials. This book will be beneficial for both students and researchers working in the fields of chemistry, biochemistry and chemical technology.

# Chemistry



## Physical Chemistry

Bernard Wilde

ISBN: 978-1-63238-001-2

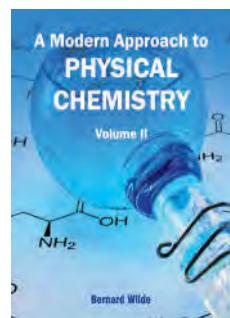
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## Physical Chemistry

Bernard Wilde

ISBN: 978-1-63238-002-9

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## A Modern Approach to Physical Chemistry:

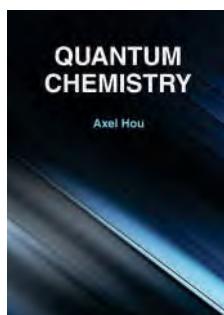
### Volume I

This book has been compiled by different authors with one aim, which is to provide theoretical, practical and conceptual knowledge of physical chemistry. This book contains chapters that will explore physical chemistry in a different light. Concepts are discussed using experimental demonstrations in theoretical form. All the chapters have been thoroughly reviewed. The book elucidates the concepts of physical chemistry related to both inorganic and organic compounds. This book aims to be a resourceful guide for both basic and advanced concepts in physical chemistry.

## A Modern Approach to Physical Chemistry:

### Volume II

This book has been compiled by different authors with one aim, which is to provide theoretical, practical and conceptual knowledge of physical chemistry. This book contains chapters that will explore physical chemistry in a different light. Concepts are discussed using experimental demonstrations in theoretical form. All the chapters have been thoroughly reviewed. The book elucidates the concepts of physical chemistry related to both inorganic and organic compounds. This book aims to be a resourceful guide for both basic and advanced concepts in physical chemistry.



## Quantum Chemistry

Axel Hou

ISBN: 978-1-63238-379-2

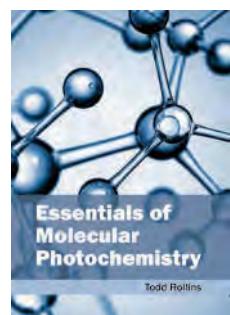
\$110.00 US

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212pp./Colored

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## Photochemistry

Todd Rollins

ISBN: 978-1-63238-192-7

\$125.00 US

Year 2015

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294pp./Colored

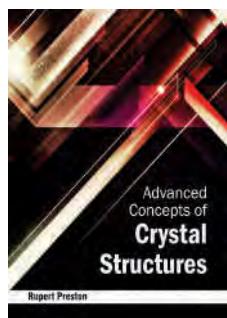
Hardback

## Quantum Chemistry

This book deals with quantum chemistry providing comprehensive information regarding theoretical basis and novel applications in the field. Until early 20th century, many questions regarding molecules like their existence in stable and rigid networks between atoms and changing into different types of molecules had been unanswered. With the discovery of quantum mechanics, this scenario changed. Such queries were especially important, given the fact that they form the basis of life. Quantum mechanics is the theory for small particles such as electrons and nuclei. Heitler and London applied these principles to the hydrogen molecule in 1927. This breakthrough resulted in the explanation of the chemical bonding between hydrogen atoms. Since then, quantum chemistry has been critically important in the understanding of molecular properties such as stability, reactivity, and applicability for devices in various spheres.

## Essentials of Molecular Photochemistry

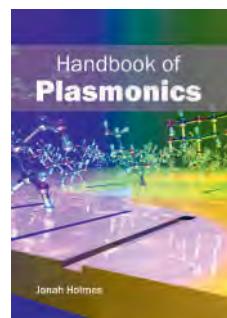
Molecular photochemistry has garnered significant interest of researchers and scholars across the globe. This book has been compiled with the intention of addressing utilization of basic fundamentals and principles to more complex concepts in various fields of photochemistry. It is unique in its approach in comparison to various classical books on photochemistry which provide detailed accounts limited only to the basics of molecular photochemistry. There has been an overview on the core concepts used in diverse spheres of photochemistry which are not easily accessible. The aim of this text is to update academicians, students and experts actively involved in the field of molecular photochemistry. Latest developments have been highlighted and different functions of the technology in solution, metal oxides, biology, computational aspects and other applications have been dealt with. This book presents a unique overview on photochemistry.



## Condensed Matter Physics

### Rupert Preston

ISBN: 978-1-63238-012-8  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
215pp./Colored  
Hardback



## Condensed Matter Physics

### Jonah Holmes

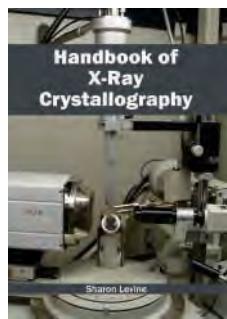
ISBN: 978-1-63238-265-8  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
310pp./Colored  
Hardback

## Advanced Concepts of Crystal Structures

The relevance of crystal structure theory is highly crucial in determining the reaction of various elements with each other. The book aims to bring forth the new and innovative concepts in the field and help facilitate the growth of the discipline. The researches included in this book will prove to be an enlightening guide for the readers.

## Handbook of Plasmonics

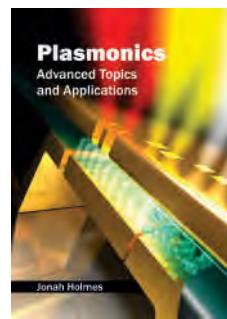
This book examines the theory as well as the practical applications of plasmonics and serves as a compilation of the modern advancements and researches in the field. It also covers the technical issues related to the field. The information presented in this book covers topics under "emerging concepts with plasmonics" and "plasmonics applications". It will be beneficial to students, engineers and basic scientists.



## Condensed Matter Physics

### Sharon Levine

ISBN: 978-1-63238-284-9  
\$160.00 US  
Year 2015  
Book Size: 6"x9"  
450pp./Colored  
Hardback



## Condensed Matter Physics

### Jonah Holmes

ISBN: 978-1-63238-361-7  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
262pp./Colored  
Hardback

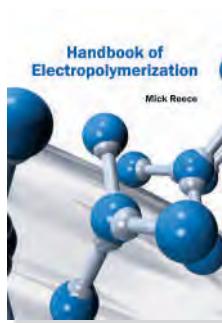
## Handbook of X-Ray Crystallography

X-ray Crystallography is a scientific technique used to demonstrate the arrangement of atoms of a crystalline solid in 3D space. This book is a collection of latest trends, using X-ray crystallography and related structural determination techniques in a diverse variety of spheres. The procedures emphasized in this book consist of various processes and spectroscopic complimentary methods. The spectrum ranges from basic organic compounds to metal complexes to proteins and includes meta-analyses of a host of weak connections.

## Plasmonics: Advanced Topics and Applications

This book elucidates the theory as well as the practical applications of plasmonics and serves as a compilation of the modern advancements and researches in the field. It also covers the technical issues related to the field. The information presented in this book covers interesting topics of "modeling and computational techniques, focusing, guiding," and "plasmonic structures for light transmission". It will serve as a reference book for students, researchers and scientists engaged in the field.

# Chemistry



## Polymerization

**Mick Reece**

ISBN: 978-1-63238-241-2

\$110.00 US

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Book Size: 6"x9"

226pp./Colored

Hardback

## Advances in Polypropylene

Will Davis



## Polymers

**Will Davis**

ISBN: 978-1-63238-038-8

\$110.00 US

Year 2015

Book Size: 6"x9"

228pp./Colored

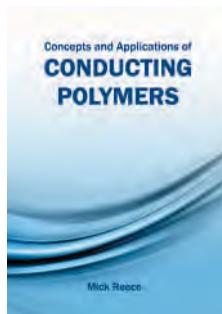
Hardback

## Handbook of Electropolymerization

This book presents a broad overview of various aspects of electropolymerization. Lately, special attention has been paid to polymer thin films. These films play a crucial role in many technical functions, including coatings, adhesives and organic electronic equipment like sensors and detectors. Electrochemical polymerization is preferred in such scenarios, particularly if the polymeric compound is meant to be used for thin films, since electrogeneration facilitates close control over the thickness of the film, a critical criterion for creation of devices. Additionally, it has been illustrated that the material properties can be adjusted using parameter control of the electrodeposition procedure. Electrochemistry is an exceptional means, not just for creation, but also for classification and use of diverse kinds of resources. This book brings forth an opportune summary of the present state of data pertaining to the use of electropolymerization for preparation of new materials, including conducting polymers and diverse potential of functions.

## Advances in Polypropylene

Polypropylene is widely used in the packaging and other industries. This book is a compilation of researches based on polypropylene, accomplished by experts around the globe over five decades. It demonstrates the various developmental stages that polypropylene has undergone. This book also consists of some current polypropylene theories. The book covers the various applications of polypropylene in varied industries. It intends to provide concise and well-compiled information related to polypropylene to its readers.



## Polymers

**Mick Reece**

ISBN: 978-1-63238-090-6

\$110.00 US

Year 2015

Book Size: 6"x9"

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Hardback

## Advances in Electrochemistry



## Electrochemistry

**Bernard Wilde**

ISBN: 978-1-63238-032-6

\$154.99 US

Year 2015

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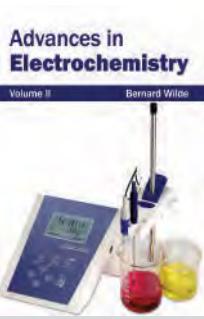
Hardback

## Advances in Electrochemistry: Volume I

This book explores the all-pervasive and interdisciplinary nature of electrochemistry, especially reactions involving electrodes using concepts of modern electrochemistry. Also, the text presented in this book will guide students as well as experts to understand the nascent developments that this subject has undergone in terms of concepts and applications. This book discusses the applications and procedures of electrochemistry in the fields of medical science, industrial manufacturing, and computer science.

## Concepts and Applications of Conducting Polymers

This book discusses the various concepts and applications of conducting polymers. Conducting polymers are described as those organic polymers which have the ability to conduct electricity. These polymers have large-scale applications in several industrial processes. The book is, therefore, of great relevance. Scientists and researchers from across the globe have contributed significant information. The ultimate aim of this book is to provide valuable and useful information regarding conducting polymers to a broad spectrum of readers including students, scientists, researchers, industrial professionals, etc.



## Electrochemistry

**Bernard Wilde**

ISBN: 978-1-63238-033-3

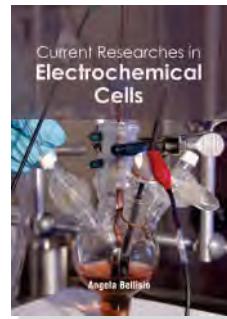
\$154.99 US

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## Electrochemical Cell

**Angela Bellisio**

ISBN: 978-1-63238-114-9

\$110.00 US

Year 2015

Book Size: 6"x9"

252pp./Colored

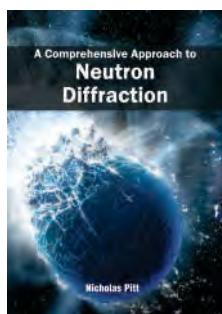
Hardback

## Advances in Electrochemistry: Volume II

This book explores the all-pervasive and interdisciplinary nature of electrochemistry, especially reactions involving electrodes using concepts of modern electrochemistry. Also, the text presented in this book will guide students as well as experts to understand the nascent developments that this subject has undergone in terms of concepts and applications. This book discusses the applications and procedures of electrochemistry in the fields of medical science, industrial manufacturing, and computer science.

## Current Researches in Electrochemical Cells

This book presents a detailed account of latest developments and research outcomes regarding electrochemical cells. At present, studies in the sphere of electrochemical cells have garnered the attention of experts and engineers functioning in higher levels of micro-technologies, nano-technologies and bio-technologies, specifically for developing processes of energy creation and conversion, medical care and ecological preservation. Continuous work and research from experts and readers alike will result in consistent advancements and expansion.



## Diffraction

**Nicholas Pitt**

ISBN: 978-1-63238-000-5

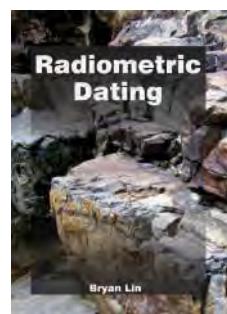
\$125.00 US

Year 2015

Book Size: 6"x9"

298pp./Colored

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## Radiometric Dating

**Bryan Lin**

ISBN: 978-1-63238-386-0

\$90.00 US

Year 2015

Book Size: 6"x9"

137pp./Colored

Hardback

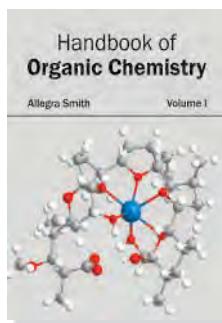
## A Comprehensive Approach to Neutron Diffraction

This book describes the process of application of neutron diffraction, which involves determining the atomic/magnetic structure of a material using neutron scattering. The technique of neutron diffraction has found extensive applications in the study of crystals, magnetic composition and inner stress of crystalline materials of diverse categories, including nanocrystals. This book contains important data on the current status of neutron diffraction studies of crystals for experts keen on researching crystals and monitored control of their service traits, because their physical and mechanical properties are largely results of their crystal structure. Topics covered in this book have been dealt with meticulously and this book will be important to scientists keen on exploring the possibilities of this process. This text will further assist the studies of crystalline, magnetic & macrostructures of usual crystal materials and nanocrystals to achieve a new benchmark and propagate the creation of new resources with enhanced service traits and development of pioneering ideas.

## Radiometric Dating

Radiometric dating is described as a technique of dating geological specimens by determining the relative proportions of specific radioactive isotopes present in a sample. This book delves into a multitude of subjects pertaining to radiometric dating, with special attention on the process of radiocarbon dating and verification of its outcomes with luminescence measurements. This text provides an explanation on the difficulty faced in preparing samples for 14C measurement - a wide application of the radiocarbon process, and an assessment of outcomes attained by several processes, such as radiocarbon technique, the technique of OSL, TL and palynology. Radiocarbon dating of mortars and plasters has been meticulously described in the book. This book also brings forth instances of usage of the radiocarbon process for research in a multitude of spheres including study of archaeological and geological locations, evaluation of soil samples and loesses and analysis of organic deposits found in the faults in Morasko Meteorite Nature Reserve. A variety of research outcomes indicate towards the great prospect of the radiocarbon technique. The information presented in this book reflects multidisciplinary study which will be beneficial for students, researchers and practitioners alike.

# Chemistry



## Organic Chemistry

**Allegra Smith**

ISBN: 978-1-63238-260-3

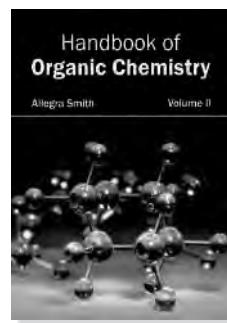
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## Organic Chemistry

**Allegra Smith**

ISBN: 978-1-63238-261-0

\$154.99 US

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Book Size: 8.5"x11"

200pp./Colored

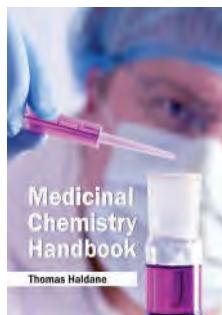
Hardback

## Handbook of Organic Chemistry: Volume I

This book attempts to understand the advanced concepts that constitute the discipline of organic chemistry. The various branches of organic chemistry are discussed here with their respective research opportunities and advances. The proposed advancements and discoveries in organic chemistry are detailed as well. The various new and upcoming concepts in this field are looked at. Researchers and students in this area of study will find this book helpful in fulfilling their research needs.

## Handbook of Organic Chemistry: Volume II

This book attempts to understand the advanced concepts that constitute the discipline of organic chemistry. The various branches of organic chemistry are discussed here with their respective research opportunities and advances. The proposed advancements and discoveries in organic chemistry are detailed as well. The various new and upcoming concepts in this field are looked at. Researchers and students in this area of study will find this book helpful in fulfilling their research needs.



## Biochemistry

**Thomas Haldane**

ISBN: 978-1-63238-319-8

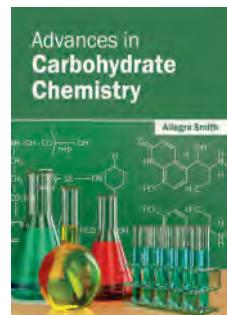
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## Carbohydrate Chemistry

**Allegra Smith**

ISBN: 978-1-63238-030-2

\$154.99 US

Year 2015

Book Size: 8.5"x11"

211pp./Colored

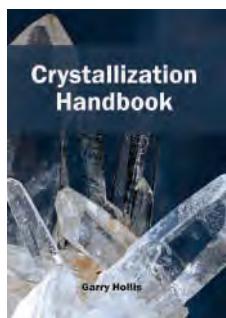
Hardback

## Medicinal Chemistry Handbook

This book contains researches based on medicinal chemistry and its sub-disciplines. The aim of this book is to provide an overview of recent issues and some significant advances in medicinal science. However, the major emphasis is on theoretical and experimental theories of modern drug designing, in order to help researchers, chemists, pharmaceutical specialists and chemical engineers in their future projects. This book will serve as a resource guide in the field of medicinal chemistry and facilitate the progress of this field.

## Advances in Carbohydrate Chemistry

Carbohydrate chemistry is a discipline of chemistry that concerns itself with the synthesis, structure and function of carbohydrates. This discipline has undergone rapid development. This book includes a compilation of all the advancements that have occurred in the field of carbohydrate chemistry, carried out by experts who have researched in-depth into this particular sphere. It looks into all aspects of this branch of science and documents the progress made in the world.



## Inorganic Chemistry

**Garry Hollis**

ISBN: 978-1-63238-104-0

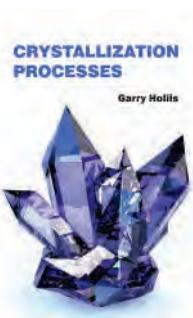
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## Inorganic Chemistry

**Garry Hollis**

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Book Size: 6"x9"

392pp./Colored

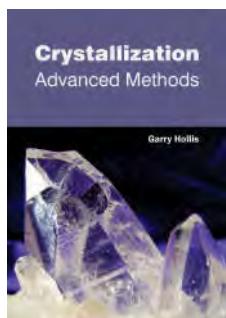
Hardback

## Crystallization Handbook

Crystals are of various kinds, both organic and inorganic, and the process of crystallization is an age-old multidimensional subject of research study. Crystals can be formed from solids, melts, liquids and even vapors. Though complex in its characteristics, the process of crystallization forms a part of our regular lives from making ice cubes in our refrigerators to latest and advanced chemical and electronic industry processes. This book is aimed at bringing forth novel perspectives while presenting important data for experts in the related fields of crystallography. It includes topics on applications, techniques and mineral formation, dedicated to the practical application of crystallization processes and concepts. This book also attempts to be a wholesome document giving detailed accounts about the process of crystallization which will prove to be a valuable reference source to people with diverse backgrounds.

## Crystallization Processes

A common processing industry procedure for production, purification or recovery of solid materials, crystallization is applicable to multiple fields. Lately, numerous novel applications have started counting on crystallization for their successful implementation, such as the crystallization of nano and amorphous materials. The content of this book has been compiled by some highly respected experts in the field and pertains to cutting-edge areas of study and advancements in crystallization procedures. This book documents current work advancements in various facets of crystallization, like chiral crystallization, and the crystallization of amorphous and glassy substances and crystallization of nanomaterials. It will prove to be invaluable for both basic study and expert practice, while adding substantially to the knowledge reservoir of all chemical engineers, students and academicians.



## Inorganic Chemistry

**Garry Hollis**

ISBN: 978-1-63238-106-4

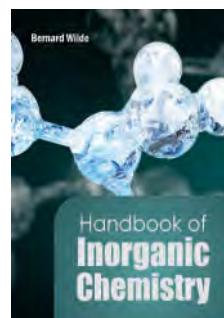
\$125.00 US

Year 2015

Book Size: 6"x9"

288pp./Colored

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## Inorganic Chemistry

**Bernard Wilde**

ISBN: 978-1-63238-252-8

\$154.99 US

Year 2015

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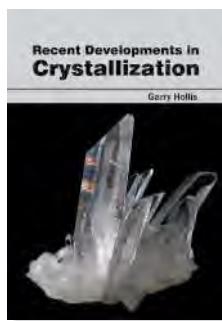
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## Crystallization: Advanced Methods

Recently, numerous novel applications have started counting on crystallization for their successful implementation, such as the crystallization of nano and amorphous materials. A common processing industry procedure for production, purification or recovery of solid materials, crystallization is applicable to multiple fields. The content of this book has been compiled by some highly respected experts in the field and pertains to cutting-edge areas of study and advancements in crystallization procedures. This book documents current work advancements in various facets of bulk crystallization from aqueous solutions and discusses general issues in crystallization. This book will prove to be invaluable for both basic study and expert practice, while adding substantially to the knowledge reservoir of all chemical engineers, students and academicians.

## Handbook of Inorganic Chemistry

This book has been written by experts in the field of inorganic chemistry. The topics discussed in this book cover some of the crucial aspects of inorganic chemistry such as electrochemical activities, characteristic study of various complex compounds, synthesis of compounds and uses of these processes in different fields of science. This book covers the advanced concepts and recent developments in this field. This book aims to serve as a resource guide for students and experts alike.



## Inorganic Chemistry

**Garry Hollis**

ISBN: 978-1-63238-387-7

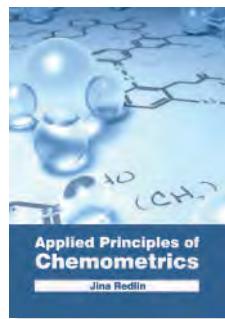
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## Computational Chemistry

**Jina Redlin**

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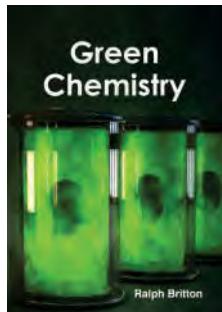
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## Recent Developments in Crystallization

Crystals can be formed from solids, melts, liquids and even vapors. Crystals are of various kinds, both organic and inorganic, and the process of crystallization is an age-old multidimensional subject of research study. Though complex in its characteristics, the process of crystallization forms a part of our regular lives from making ice cubes in our refrigerators to latest and advanced chemical and electronic industry processes. This book is aimed at bringing forth novel perspectives while presenting important data for experts in the related fields of crystallography. It elaborates the fundamentals and theoretical aspects in crystallization. The reader is introduced to various different perspectives of the crystallization process which will prove to be a valuable reference source to those with diverse backgrounds.



## Environmental Chemistry

**Ralph Britton**

ISBN: 978-1-63238-215-3

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Year 2015

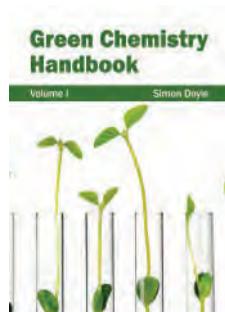
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## Applied Principles of Chemometrics

A comprehensive account on chemometrics has been provided in this book. It elaborates the diverse uses of chemometric methods in various spheres like chemistry, biochemistry and chemical technology. Selected techniques of chemometry have been described in a lucid and comprehensive manner. This book is dedicated to bridging the distance between textbooks and science journals on chemometrics and chemoinformatics.



## Environmental Chemistry

**Simon Doyle**

ISBN: 978-1-63238-216-0

\$154.99 US

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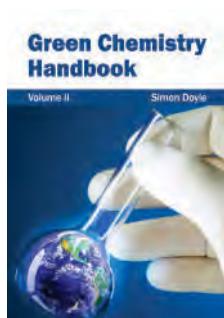
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## Green Chemistry Handbook: Volume I

Green and sustainable chemistry is the need of the hour. The degradation of the environment by any means, needs to be stopped. This book covers in detail some innovative concepts and case studies which have been developed in the field of green and sustainable chemistry. This book is a vital tool for all researching or studying this area as it includes research works on contemporary theories in this field.

## Green Chemistry

This book gives a comprehensive discourse on the various aspects of handling various environmental concerns through the use of various approaches involving chemistry. Green chemistry can also be called environmental chemistry. In essence, it is philosophical approach which propagates a viewpoint of applying chemistry in creating more environment friendly solutions. It is deemed to be a critical part of an extensive plan for protection of human well-being and ecology. It is an economically driven and scientific methodology towards accomplishing the goals of ecological protection and sustainable progress. Incorporating technological advancements with safety of the environment is one of the crucial challenges of current times. This book explains unique approaches for the industrial processes as well as chemical laboratories which are gentle to the environment. To present an overview on step change technologies, this book has been compiled from contributions by green chemistry experts.



## Environmental Chemistry

**Simon Doyle**

ISBN: 978-1-63238-217-7

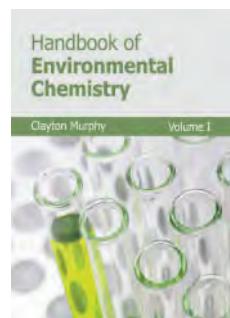
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## Environmental Chemistry

**Clayton Murphy**

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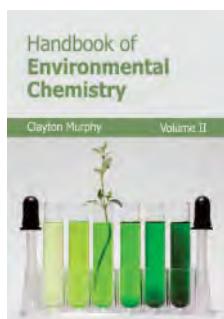
Hardback

## Green Chemistry Handbook: Volume II

Green and sustainable chemistry is the need of the hour. The degradation of the environment by any means, needs to be stopped. This book covers in detail some innovative concepts and case studies which have been developed in the field of green and sustainable chemistry. This book is a vital tool for all researching or studying this area as it includes research works on contemporary theories in this field.

## Handbook of Environmental Chemistry: Volume I

Environmental chemistry is a rapidly expanding discipline of science. It integrates chemistry and environment in a manner which is most beneficial for humans. This book attempts to understand the multiple branches of environmental chemistry and how it can be useful in our lives. The various concepts that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here.



## Environmental Chemistry

**Clayton Murphy**

ISBN: 978-1-63238-246-7

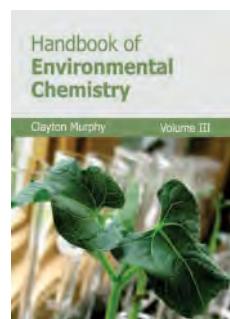
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## Environmental Chemistry

**Clayton Murphy**

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## Handbook of Environmental Chemistry:

### Volume II

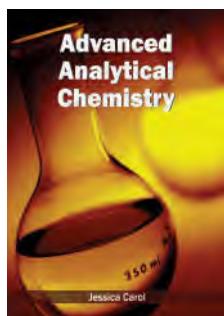
Environmental chemistry is a rapidly expanding discipline of science. It integrates chemistry and environment in a manner which is most beneficial for humans. This book attempts to understand the multiple branches of environmental chemistry and how it can be useful in our lives. The various concepts that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here.

## Handbook of Environmental Chemistry:

### Volume III

Environmental chemistry is a rapidly expanding discipline of science. It integrates chemistry and environment in a manner which is most beneficial for humans. This book attempts to understand the multiple branches of environmental chemistry and how it can be useful in our lives. The various concepts that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here.

# Chemistry



## Analytical Chemistry

**Jessica Carol**

ISBN: 978-1-63238-005-0

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## Analytical Chemistry

**Jina Redlin**

ISBN: 978-1-63238-121-7

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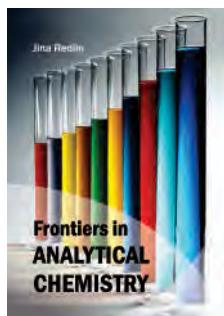
Hardback

## Advanced Analytical Chemistry

This book is focussed on aspects of analytical chemistry, which are presented in chapters written by highly professional researchers. In this book, the topics discussed include spectroscopy, chromatography, and other laboratory procedures which are used in analysis of a component. There are some very important industrial procedures that use analytical chemistry in the processing, extraction and observation of chemical substances, which are examined in this book. The book will be a valuable source of reference to industrial and chemical engineers.

## Electrochemical Science and Technology

Electrochemical science deals with the analysis of chemical reactions occurring at the surface of an electrode. This text presents a selection of topics pertaining to breakthrough procedures applied in the study of electrochemical science and technologies. Elaborations on electrochemical systems along with processing of emerging materials and mechanisms applicable for their operation have been discussed. A detailed account on some of the latest advancements in electrochemical science and technology has been compiled in this book. Special attention has been paid to both the academic and experimental facets of contemporary electrochemistry. The primary emphasis of this book is on the latest progress and accomplishments in the field electrochemical science and technology.



## Analytical Chemistry

**Jina Redlin**

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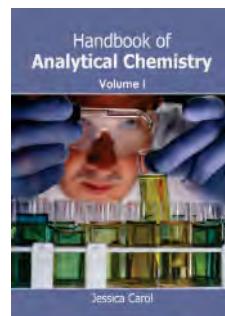
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## Analytical Chemistry

**Jessica Carol**

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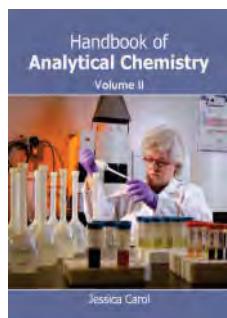
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## Frontiers in Analytical Chemistry

Analytical Chemistry covers all the applications and techniques of molecular chemistry and it spans nearly all the areas of chemistry. This book deals with various, highly significant topics of modern, Analytical Chemistry, like analytical method validation in biotechnology today, principal component analysis, kinetic methods of examination using potentiometric and spectrophotometric detectors, the present status of Analytical Chemistry and where its future prospects lie, peptide and amino acid separations and identification, and many other related topics in this growing and expanding important area of Chemistry, in general. Analytical Chemistry has come to acquire a significantly crucial role in most, if not all, areas of scientific research today, from the recent Mars lander/rover, to underwater explorations, to forensic science to DNA characterization for dedicated medicine treatments, to climate change, and other equally important fields of modern, scientific research and development. Its application in modern -omics R&D fields has expanded so that its methods and instrumentation have gained high importance in all such areas, comprising of metabolomics, proteomics, peptidomics, combinatorial chemistry, and so forth. This book will be of great help to chemical and industrial engineers.

## Handbook of Analytical Chemistry: Volume I

This book attempts to understand the multiple branches of analytical chemistry and it also presents the researches happening across the globe in this field. It also discusses how such research can be useful in our lives. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be assisted by this book.



## Analytical Chemistry

**Jessica Carol**

ISBN: 978-1-63238-221-4

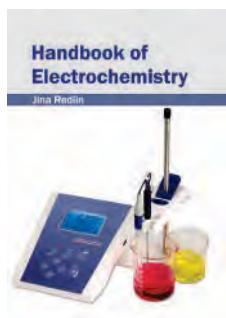
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## Analytical Chemistry

**Jina Redlin**

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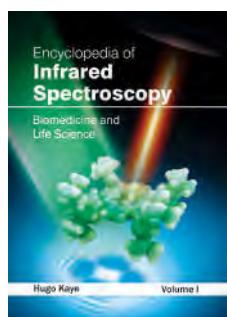
Hardback

## Handbook of Analytical Chemistry: Volume II

This book attempts to understand the multiple branches of analytical chemistry and it also presents the researches happening across the globe in this field. It also discusses how such research can be useful in our lives. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be assisted by this book.

## Handbook of Electrochemistry

Electrochemistry is the branch of chemistry which is concerned with the relations between electrical and chemical phenomena. Electrochemistry has witnessed significant advances in the last few decades. It has now acquired the position of a domain of interest for a diverse range of spheres varying from academicians concerned with studying thermodynamic properties of solutions to industrialists involved in utilization of electrolysis or manufacturing of batteries. It has now become evident that these apparently distinct subjects, alongside others, have an element of commonality among them and that they have grown towards each other, particularly as a result of ongoing research regarding the rates of electrochemical processes. These advances have resulted from a number of factors and indicate a potential of carrying out repeatable, dynamic experiments under an ever-increasing variety of conditions with reliable and sensitive instrumentation. This has enabled various researches of both fundamental and applied nature, to be carried out in this intriguing domain.



## Spectroscopy

**Hugo Kaye**

ISBN: 978-1-63238-137-8

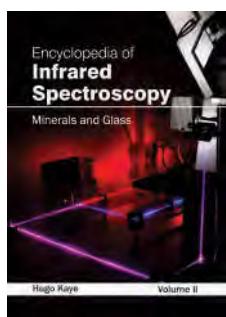
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## Spectroscopy

**Hugo Kaye**

ISBN: 978-1-63238-138-5

\$110.00 US

Year 2015

Book Size: 6"x9"

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## Encyclopedia of Infrared Spectroscopy:

Biomedicine and Life Science

**Volume I**

The book offers an in-depth look at Infrared Spectroscopy, elucidating its role in the field of Biomedicine and Life Science. It has been specially compiled for the purpose of serving scientists, learners and even workers in industry, agriculture and pharmaceutical companies. The book deals with the use of MIRS and NIRS in brain activity and medical study. This book also talks about FT-IR spectra of breast tissues, atherosomatic plaques, human bones and projects examining of haemodynamic activation in the cerebral cortex, brain oxygenation researches and many interesting insights from a scientific viewpoint.

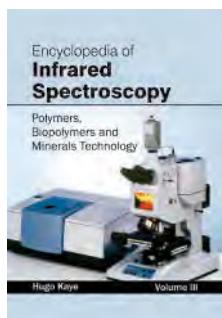
## Encyclopedia of Infrared Spectroscopy:

Minerals and Glass

**Volume II**

This book presents an important account of information on Infrared (IR) and Near Infrared (NIR) Spectroscopy, both of which are non-invasive imaging procedures. The researches encompass various topics presented by prominent stalwarts from the respective fields. It brings forth a detailed view of advancements in the sphere of functions of IR under the section minerals and glasses, which describes identifying amorphous phases of materials, glasses, rocks and minerals, catalysts, as well as peat in reaction processes. The aim of this book is to create a common ground for discussion on diverse fields related to spectroscopic techniques and boosting interaction among experts.

# Chemistry



## Spectroscopy

**Hugo Kaye**

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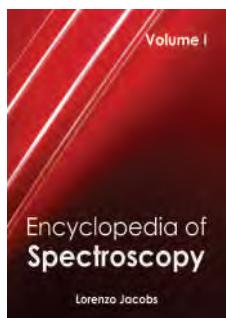
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## Spectroscopy

**Lorenzo Jacobs**

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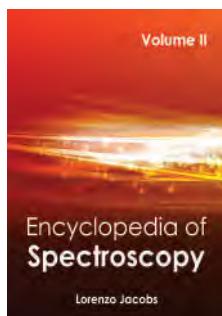
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216pp./Colored

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## Encyclopedia of Infrared Spectroscopy: Polymers, Biopolymers and Minerals Technology Volume III

This book presents an important account of information on Infrared (IR) and Near Infrared (NIR) Spectroscopy, both of which are non-invasive imaging procedures. This book encompasses various topics presented by prominent stalwarts from the respective fields. It brings forth a detailed view of advancements in the sphere of functions of IR and NIR procedures in various polymers and biopolymers and material technology disciplines. The aim of this book is to create a common ground for discussion on diverse fields related to spectroscopic techniques and boosting interaction among experts.



## Spectroscopy

**Lorenzo Jacobs**

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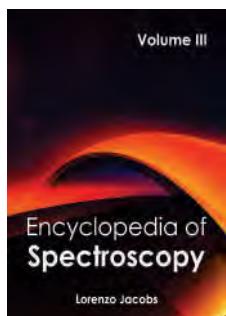
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## Encyclopedia of Spectroscopy: Volume I

This book attempts to understand the multiple concepts and theories that fall under the umbrella of spectroscopy and how such advancements can be useful in our lives. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be greatly assisted by this book. The purpose of this book is to present the most sought-after topics in this field to facilitate research and growth of the discipline.



## Spectroscopy

**Lorenzo Jacobs**

ISBN: 978-1-63238-169-9

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Year 2015

Book Size: 8.5"x11"

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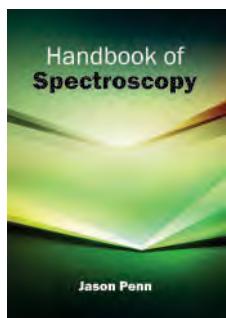
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## Spectroscopy

**Jason Penn**

ISBN: 978-1-63238-281-8

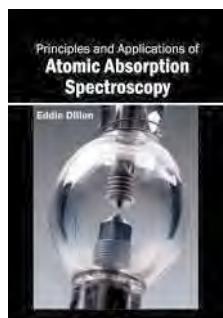
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## Spectroscopy

**Eddie Dillon**

ISBN: 978-1-63238-369-3

\$125.00 US

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Book Size: 6"x9"

270pp./Colored

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**Handbook of Spectroscopy**

This book is a compilation of substantial information on spectroscopy. Spectroscopy is the field pertaining to absorption and emission of electromagnetic radiation through the interface between matter and energy. It is based on the principle that energy varies on the particular wavelength of electromagnetic radiation. It has proven to be critical as a research instrument in multiple spheres like chemistry, physics, biology, medicine and ecology. The spheres of study are growing rapidly and scientists are delving into unchartered areas in this sphere through the introduction of novel procedures. The essential motive of this book is to emphasize on the current spectroscopic techniques like Magnetic Induction Spectroscopy, Laser-Induced Breakdown Spectroscopy, etc. The book covers topics from fundamental to advanced levels of spectroscopy which will offer a great source of knowledge for education and research functions.

**Principles and Applications of Atomic Absorption Spectroscopy**

The principles as well as applications of Atomic Absorption Spectroscopy (AAS) are elucidated in this book. Atomic absorption spectroscopy is one of the methods of analyzing qualitative and quantitative components in numerous fields like biomaterials, forensic science and industrial residues. The objective of this book is to encompass crucial spheres needed for helping scholars to comprehend current developments in this sphere. The book emphasizes on particular spheres in certain cases. It talks about history, basic principles, instrumentation and sample preparation, in-depth analysis with discussions on elemental profiling, functions, biochemistry and potential toxicity of metals, along with comparative techniques. This book also overviews the importance of sample preparation methods with emphasis on other details. Parts of the book also focus on ways to differentiate the components. The intervention results between various components have also been elucidated. This book will prove to be useful to everyone working in the related fields of AAS.



## Spectroscopy

**Allegra Smith**

ISBN: 978-1-63238-422-5

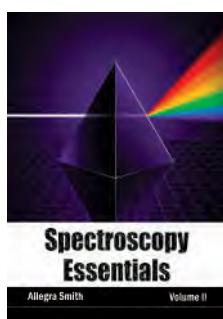
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## Spectroscopy

**Allegra Smith**

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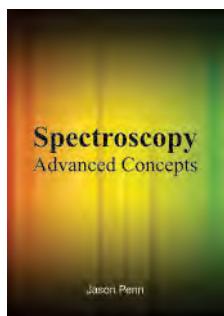
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**Spectroscopy Essentials: Volume I**

This book will provide scientists, engineers and researchers with in-depth knowledge about the subject of spectroscopy. This book contains chapters describing concepts of spectroscopy, and also the applications with some practical examples. A group of international authors have presented advanced and up-to-date concepts of different types of spectroscopy in this book. To support the concepts, many practical examples have been presented in this book. Some of the chapters will help researchers in developing innovative ideas for their future projects.

**Spectroscopy Essentials: Volume II**

This book will provide scientists, engineers and researchers with in-depth knowledge about the subject of spectroscopy. This book contains chapters describing concepts of spectroscopy, and also the applications with some practical examples. A group of international authors have presented advanced and up-to-date concepts of different types of spectroscopy in this book. To support the concepts, many practical examples have been presented in this book. Some of the chapters will help researchers in developing innovative ideas for their future projects.



## Spectroscopy

**Jason Penn**

ISBN: 978-1-63238-424-9

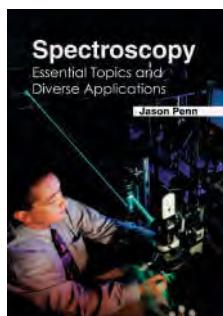
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Year 2015

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## Spectroscopy

**Jason Penn**

ISBN: 978-1-63238-425-6

\$125.00 US

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Book Size: 6"x9"

262pp./Colored

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## Spectroscopy: Advanced Concepts

The onset of a new era of science has been marked by developments in spectroscopy and its functions. Spectroscopy scientists from various domains had been encouraged to share and discuss information that has been included in this book. It talks about latest developments in technology, functions and other advancements of spectroscopy. This book will augment the understanding of researchers about complications of different spectroscopic approaches and urge professionals and beginners to contribute part of their future research in understanding relevant mechanisms and applications of chemistry, physics and material sciences. Studies on analytical methods for determination of polyphenols, spectrophotometry and chemiluminometry, quality control of herbal medicines, flow-injection spectrophotometric analysis of Iron (II), Iron (III), and spectrophotometry as a tool for dosage sugars in nectar crops etc. are covered extensively in this book.

## Spectroscopy: Essential Topics and Diverse Applications

This book talks about latest developments in technology, functions and other advancements in spectroscopy. Spectroscopy scientists from various domains had been encouraged to share and discuss information that has been included in this book. With inputs from experts in Chemistry, Biochemistry, Physics, Biology and Nanotechnology, this book is a treasured resource of knowledge for readers. This book will augment the understanding of researchers about complications of different spectroscopic approaches and urge professionals and beginners to contribute part of their future research in understanding relevant mechanisms and applications of chemistry, physics and material sciences. This book focuses on the following sections: atomic absorption spectroscopy, UV-VIS spectroscopy, FT-IR spectroscopy and fluorescence spectroscopy.



## Spectroscopy

**Jason Penn**

ISBN: 978-1-63238-426-3

\$110.00 US

Year 2015

Book Size: 6"x9"

244pp./Colored

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## Microscopy

**Kate Wright**

ISBN: 978-1-63238-059-3

\$154.99 US

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Book Size: 6"x9"

368pp./Colored

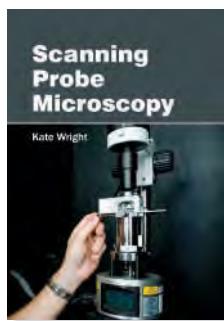
Hardback

## Spectroscopy: Modern Concepts

This book provides substantial research on Spectroscopy. Spectroscopy is the field pertaining to absorption and emission of electromagnetic radiation through the interface between matter and energy. It is based on the principle that energy varies on the particular wavelength of electromagnetic radiation. It has proven to be critical as a research instrument in multiple spheres like chemistry, physics, biology, medicine and ecology. The spheres of study are growing rapidly and scientists are delving into upcoming areas in this sphere through the introduction of novel procedures. The motive of this book is to emphasize on the current spectroscopic techniques like Nano Spectroscopy and Optical Spectroscopy. The book also covers organic and physical spectroscopy. The text is a great source of knowledge for education and research functions.

## Atomic Force Microscopy: Biological Aspects

A prominent high scale (fractions of a nanometer) measurement technique for material science - Atomic Force Microscopy (AFM), was introduced in 1980s but is now fast gaining significance in the field of biology. This technique is used to examine the topological surface of biological nanoparticles i.e. proteins, viruses etc. In addition, it demonstrates the physical attributes such as Young's modulus, bond strength, surface friction etc. of these nano-organisms. AFM is functional within physiologically suitable conditions i.e. liquids. This is the main reason of its significance in the realm of biology. The book presents an introduction about Atomic Force Microscopy along with the techniques and practices of sample preparations. It also familiarizes readers with recent research works on nanoparticles, proteins, viruses and living cells and their characterization.



## Microscopy

**Kate Wright**

ISBN: 978-1-63238-407-2

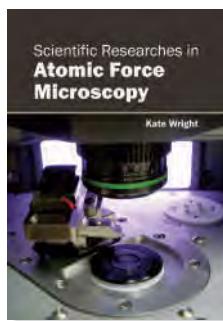
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## Microscopy

**Kate Wright**

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\$125.00 US

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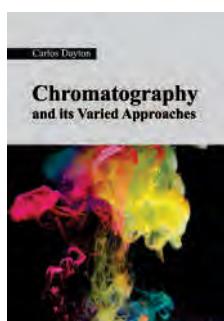
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**Scanning Probe Microscopy**

Scanning Probe Microscopy (SPM) involves forming images of surfaces using a physical scanning and detection method. The key subject of this text, scanning probe microscopy is a major tool for the progress of nanotechnology with functions in a multitude of study spheres. This book comprises of unique studies on the uses of SPM methods for the classification of physical attributes of various materials at the nano level. The various topics covered in this book vary from morphology of surfaces to analyzing thin films. The diversity of topics covered in this book reflects the prominent interdisciplinary trait of the study in the sphere of scanning probe microscopy.

**Scientific Researches in Atomic Force Microscopy**

This book elucidates the scientific researches in the field of atomic force microscopy. The invention of the atomic force microscope (AFM) brought about drastic changes in the field of surface analysis. It proved to be a critical investigative resource and method, used for qualitative and quantitative study of surfaces with sub-nanometer resolutions. Additionally, samples analyzed through this microscope don't need prior preparation procedures. This prevents any alterations or adverse effects which may damage the sample while allowing a three dimensional study of the exterior surface. This book presents latest work by masters of this method across the globe. This method has found ready acceptance in procuring important information in a diverse spectrum of fields. Since its inception in 1986, it has found multiple uses across manufacturing, research and advancement fields.



## Chromatography

**Carlos Dayton**

ISBN: 978-1-63238-082-1

\$160.00 US

Year 2015

Book Size: 6"x9"

444pp./Colored

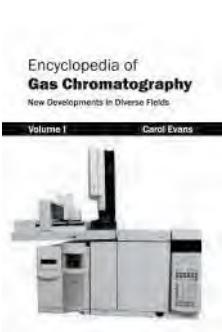
Hardback

**Chromatography and its Varied Approaches**

A number of chromatographic techniques have been developed for the purpose of separation of mixed substances. Chromatography is the most functional and widely used method in chemical testing and experiments. It plays an important role in the development of chemistry, biology and medicine and more such related areas. Its elementary simplicity and simple operation make it versatile to apply along with other detection methods such as electrolysis, photometric methods etc. This book overviews latest developments in the techniques of chromatography which would prove to be valuable to the readers involved in separation science. It covers three major areas i.e. theories, its applications and sample preparations. This book targets not just students but also practitioners and professionals engaged in the field of chemistry, pharmacology, biotechnology and related genres.

# Chemistry

## Gas Chromatography



Carol Evans

ISBN: 978-1-63238-128-6

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Year 2015

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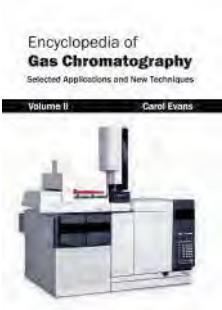
Hardback

### Encyclopedia of Gas Chromatography:

#### New Developments in Diverse Fields

Volume I

This book is a collection of studies on current advancements and growth in the field of gas chromatography and its applications. Diverse uses varying from basic biological applications to industrial uses have been overviewed in this book. Analysis of current advancements in chromatographic columns, microextraction techniques, derivatisation techniques and pyrolysis techniques has been presented in detail. It also comprises of numerous attributes of fundamental chromatography processes and is a valued resource for both budding and expert chromatographers. Latest advancements like inverse and multidimensional chromatography have also been dealt with. Studies of various toxicants, petroleum hydrocarbons and naturally occurring components have also been presented in the book. The various topics have been addressed by masters from diverse spheres and supplemented by easy-to-understand figures and tables. It has been specially designed for chemists and other practitioners working in the domains related to gas chromatography.



Carol Evans

ISBN: 978-1-63238-129-3

\$125.00 US

Year 2015

Book Size: 6"x9"

264pp./Colored

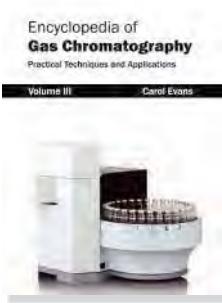
Hardback

### Encyclopedia of Gas Chromatography:

#### Selected Applications and New Techniques

Volume II

This book is a collection of studies on selected applications and new techniques in gas chromatography. Diverse uses varying from basic biological applications to industrial uses have been overviewed in this book. Analysis of multidimensional gas chromatography – time of flight mass spectrometry of PAH in smog chamber studies and in smog samples, inverse gas chromatography in characterization of composites interaction has been presented in detail. The various topics have been addressed by masters from diverse spheres and supplemented by easy-to-understand figures and tables. It has been specially purposed for chemists and other practitioners working in the domains related to gas chromatography. This book is a valued resource for both budding and expert chromatographers.



Carol Evans

ISBN: 978-1-63238-130-9

\$90.00 US

Year 2015

Book Size: 6"x9"

143pp./Colored

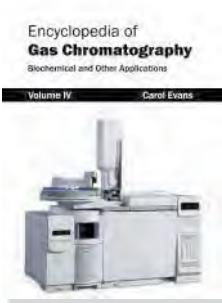
Hardback

### Encyclopedia of Gas Chromatography:

#### Practical Techniques and Applications

Volume III

Gas chromatography has wide range of applications in various detection and analysis methods in modern day chemistry. This book includes a compilation of researches which discuss the techniques and applications of gas chromatography. The objective of this book is to present the connection between a range of chromatography methods and diverse processes. Experts have applied these methods in significant technology, medical, ecological, physical and chemical procedures. Most of them arranged arithmetical support for their unique outputs attained from the chromatography methods. Since, chromatography methods are different and varying, this book will help experts and students to decide on an appropriate chromatography method. This book also demonstrates the recent challenges within this area.



Carol Evans

ISBN: 978-1-63238-131-6

\$110.00 US

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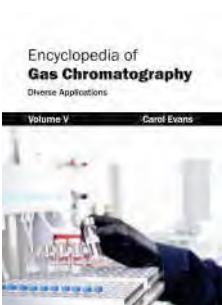
Hardback

### Encyclopedia of Gas Chromatography:

#### Biochemical and Other Applications

Volume IV

Encyclopedic information regarding the biochemical applications as well as other applications of gas chromatography are elucidated in this book. The analytical technique of gas chromatography incorporates the study of different volatile molecules in associated research fields of chemistry. This technique holds numerous characteristics and advantages making it a valuable method for the identification, evaluation and anatomical assessment of organic molecules. This book presents thorough information on applications of gas chromatography to materials like essential oils, biochemicals and narcotics. The finer characteristics of various applications have been thoroughly dealt with by the contributors to enhance their simplicity and viability. This text will prove to be of great use to beginners as well as experts who may not hold sufficient knowledge about particular uses of gas chromatography. This book will find suitable applications in labs where relevant techniques of gas chromatography are practiced.



Carol Evans

ISBN: 978-1-63238-132-3

\$154.99 US

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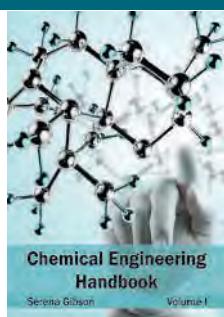
### Encyclopedia of Gas Chromatography:

#### Diverse Applications

Volume V

The diverse applications of gas chromatography are presented in this all-inclusive up-to-date book. This text has been compiled in a manner to explain the basic features and finer characteristics of certain gas chromatography procedures in specific spheres currently undergoing advancements. Experts from various fields have presented their views and experiences in this book. Every topic has so been written that it is complete in itself and will assist readers in sifting through each topic according to its relevance. This book presents applications to assist the work of professionals who want to perfect techniques of gas chromatography since it is a crucial part of analytical chemistry.

## Chemical Engineering



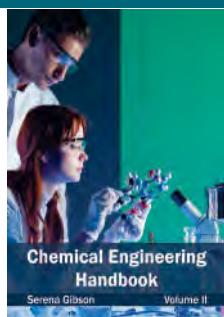
### Volume I

Serena Gibson

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### Chemical Engineering Handbook

Chemical engineering has a wide range of applications. It facilitates all fields of industry. This book is an attempt to incorporate all the varying applications and recent trends in this discipline. The researches in this book will provide insights to the readers about all the research models and developmental areas in chemical engineering.



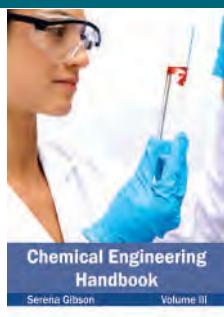
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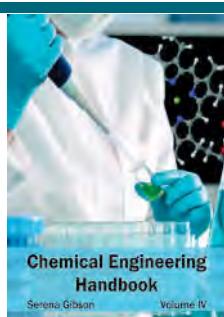
### Volume III

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### Chemical Engineering Handbook

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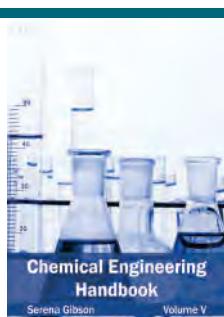
### Volume IV

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### Volume V

Serena Gibson

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### Chemical Engineering Handbook

Chemical engineering has a wide range of applications. It facilitates all fields of industry. This book is an attempt to incorporate all the varying applications and recent trends in this discipline. The researches in this book will provide insights to the readers about all the research models and developmental areas in chemical engineering.



## Sensors

**Jina Redlin**

ISBN: 978-1-63238-108-8

\$154.99 US

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Book Size: 6"x9"

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Hardback



## Tungsten Compounds

**Casan Anderson**

ISBN: 978-1-63238-457-7

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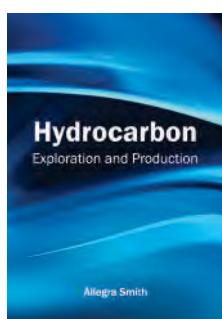
Hardback

## Current Developments in Chemical Sensors

Recent developments in the field of chemical sensors have been described in this comprehensive book. The function of chemical sensors is very important in multiple spheres like conservation of environment, prevention of disease, industrial evaluation and disaster management. A typical chemical sensor is a tool that alters chemical data in a careful and reversible manner, varying from the concentration of a particular trial component to entire composition study, into an analytically helpful indicator. Important studies have been carried out to develop a chemical sensor that responds quickly, is cost effective and compact, and holds fine investigating capability. This book presents current advancements in this field. It contains data accumulated by experts. This collection of current data and state-of-the-art progress provides critical contexts and study resources for everyone involved in study and practice related to chemical sensors.

## Tungsten Carbide: Synthesis and Implementation

Tungsten carbide is an extremely hard grey compound created by reaction of tungsten and carbon at high temperatures. This book encompasses elementary and valuable data on tungsten carbide. It covers topics ranging from powder processing to machining sciences with the purpose of facilitating the industry in discovering more possible applications. Tungsten carbide has drawn the attention of engineers as well as academics due to its distinguished properties like hardness and wear-resistance, chemical inertness and high melting point. It has several applications across distinct fields like oil and gas, wear parts, aerospace, mold and die, semiconductors, marine technology, cutting and mining tools, automotive, etc. It holds great potential specifically because of its quality to resist extreme temperature conditions and exceptionally hard nature.



## Hydrocarbons

**Allegra Smith**

ISBN: 978-1-63238-290-0

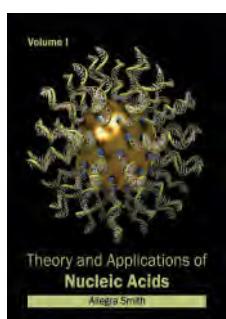
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Year 2015

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## Nucleic Acids

**Allegra Smith**

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\$154.99 US

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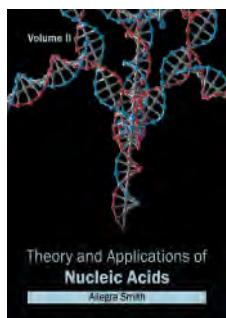
Book Size: 8.5"x11"

219pp./Colored

Hardback

## Theory and Applications of Nucleic Acids: Volume I

Today, a lot of experiments related to nucleic acids are happening. In fact, nucleic acids form an integral part of modern biological and medical research. This book on nucleic acids contains studies which discuss the analysis of nucleic acids. This book will explore concepts like structural tuning of nucleic acids, DNA damage and replications, and remodeling of nucleic acids. This book will help researchers in their future studies as it contains the best of the subject in one edition. This book will serve as a resourceful guide for both basic and advanced concepts in nucleic acids.



## Nucleic Acids

**Allegra Smith**

ISBN: 978-1-63238-448-5

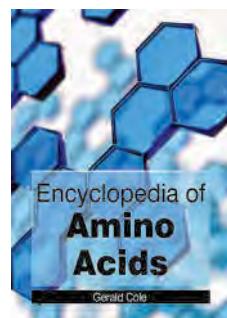
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Hardback



## Amino Acids

**Gerald Cole**

ISBN: 978-1-63238-126-2

\$154.99 US

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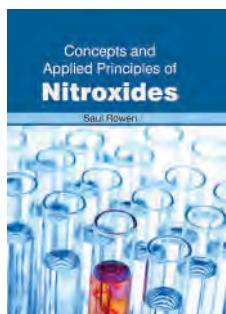
Hardback

**Theory and Applications of Nucleic Acids:****Volume II**

Today, a lot of experiments related to nucleic acids are happening. In fact, nucleic acids form an integral part of modern biological and medical research. This book on nucleic acids contains studies which discuss the analysis of nucleic acids. This book will explore concepts like structural tuning of nucleic acids, DNA damage and replications, and remodeling of nucleic acids. This book will help researchers in their future studies as it contains the best of the subject in one edition. This book will serve as a resourceful guide for both basic and advanced concepts in nucleic acids.

**Encyclopedia of Amino Acids**

This book is a compilation of advanced scientific studies from a group of international authors, and has rigorously been reviewed by highly professional experts. This book is mainly focused on researches and conceptual studies on amino acids. A wide variety of topics have been included to provide the reader with the best of knowledge about this subject. In this book, authors have presented effects, preparation, synthesis and response of human body to some types of amino acids.



## Amine Oxides

**Saul Rowen**

ISBN: 978-1-63238-095-1

\$160.00 US

Year 2015

Book Size: 6"x9"

450pp./Colored

Hardback

**Concepts and Applied Principles of Nitroxides**

This book presents an elaborate account of information on nitroxide (aminoxyl) radicals, which have come to emerge as one of the most studied and developing topics of modern chemical physics. It has found critical uses in biophysics, molecular biology, polymer sciences and medical advancements. This book has been compiled with research works by experts renowned in the sphere of spin label/probe technique. The authors have presented an in-depth study of the latest trends and functions of nitroxide radicals. This book is an important source of academic literature for chemists, physical chemists, biophysicists, biologists, physicians and other masters in diverse disciplines. It will also be helpful in using nitroxide applications for promoting the progress in natural sciences.

# Engineering & Technology



## Engineering & Technology

### Amber Hall

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## Engineering & Technology

### Tommy Haynes

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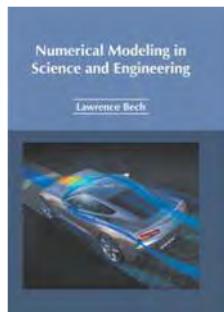
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## Encyclopedia of Science and Technology

Science and technology is a vast field of study. It is an umbrella discipline that branches out into diverse engineering disciplines. Progress in the domain of science and technology results in advancements in all fields. This book attempts to understand the multiple branches that fall under the discipline of science and technology and how such concepts have practical applications. The ever growing need of advanced technology is the reason that has fuelled the research in this field in recent times. This book will serve as a reference to a broad spectrum of readers. It will help the readers in keeping pace with the rapid changes in the field.

## Multidisciplinary Design Optimization

Multidisciplinary Design Optimization is a rapidly growing field of study. It falls under the umbrella of engineering and focuses on solving design related problems with the help of optimization methods. The techniques are also helpful and useful in other fields like automobile design, electronics, computers, etc. This book aims to elaborately discuss the various problem solving techniques under the broader category of design optimization like gradient based methods, population based methods and gradient free methods, etc. As this field is emerging at a rapid pace, the contents of this book will help the readers understand the modern concepts and applications of the subject. From theories to research to practical applications, case studies related to all contemporary topics of relevance to the field of multidisciplinary design optimization have been included in this book.



## Engineering & Technology

### Lawrence Bech

ISBN: 978-1-63238-542-0

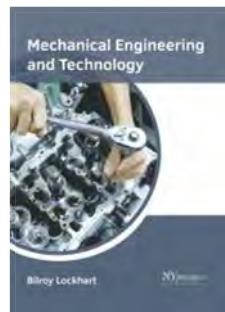
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## Mechanical Engineering

### Bilroy Lockhart

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\$134.99 US

Year 2017

Book Size: 8.5"x11"

214pp./Colored

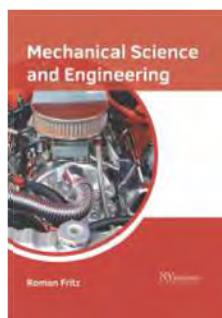
Hardback

## Numerical Modeling in Science and Engineering

Numerical modeling is the use of computational and mathematical methods to solve scientific problems. This book on numerical modeling in science and engineering deals with the basic elements that are dealt by this field such as algorithmic simulation, computer software development and computational intelligence. There has been rapid progress in this field and its applications are finding their way across multiple industries. This book studies, analyzes and upholds the pillars of numerical modeling and its utmost significance in modern times. While understanding the long-term perspective of the topics, the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. It will help the readers in keeping pace with the rapid changes in this field.

## Mechanical Engineering and Technology

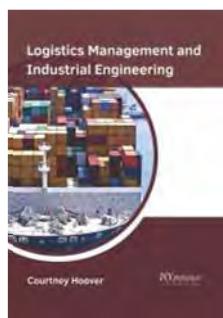
Mechanical engineering deals primarily with the design and manufacture of machines and mechanical systems. This book on mechanical engineering presents a multi-disciplinary approach to the field. Thermodynamics, structural analysis, mechanics, etc. are some of the key areas of mechanical engineering that have been thoroughly discussed in this text. The prospects of mechanical engineering are vast and technology is upgraded constantly. The topics included in this book reflect the technological progress that has been made and the corresponding theoretical breakthroughs that have also occurred. The book elucidates innovative models and concepts around prospective developments with respect to this field. It will be of great help to students, experts, researchers and engineers in the fields of manufacturing, electronics and other related areas.



## Mechanical Engineering

Roman Fritz

ISBN: 978-1-63238-533-8  
\$129.99 US  
Year 2017  
Book Size: 8.5"x11"  
196pp./Colored  
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## Industrial Engineering

Courtney Hoover

ISBN: 978-1-63238-530-7  
\$140.00 US  
Year 2017  
Book Size: 8.5"x11"  
219pp./Colored  
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## Mechanical Science and Engineering

Mechanical Engineering is an interdisciplinary field of study which combines techniques and principles from a range of disciplines including physics, materials science, etc. It includes the designing, maintenance and analysis of mechanical systems. This book provides comprehensive insights into the field of mechanical engineering. It elucidates new techniques and their applications in a multidisciplinary approach. It also sheds light on the concepts and innovative models around prospective developments with respect to mechanical engineering. Students, researchers, experts and all associated with this field will benefit alike from this book. It will help the readers in keeping pace with the rapid changes in this field.

## Logistics Management and Industrial Engineering

The planning, creation and implementation of supply chains, manual and automated, that seek to implement and control goods and services can be called as logistics management. Supply chains are an integral part of industrial engineering. This book on logistics management and industrial engineering discusses topics related to the distribution of products, the control of inflow of raw materials and the safe storage of finished products. This book aims to emphasize the role played by logistics in the growth of the economy. Some of the diverse topics covered herein address the varied branches that fall under this category. This book includes contributions of experts and scientists which will provide innovative insights into this field. It is a vital tool for all researching and studying in this field.



## Signal Processing

Anna Sanders

ISBN: 978-1-63238-529-1  
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Year 2017  
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## Artificial Intelligence

Rowland Wilson

ISBN: 978-1-63238-531-4  
\$129.99 US  
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Book Size: 8.5"x11"  
206pp./Colored  
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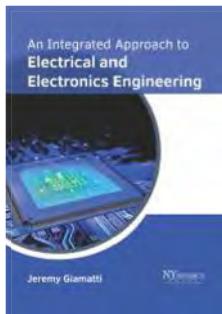
## Multimedia Signals: Image, Audio and Video Processing

Multimedia signal processing uses computational techniques to read digital data. This book on multimedia signals explains the processes that are involved in audio and video processing, data conversion and data compression. Signals are arranged in a sequence related to time, space or frequency. Algorithms that correlate to simple digital signal processes are discussed in detail. This book is a valuable compilation of topics ranging from the basic to the most complex advancements in the field of multimedia signal processing. The aim of this text is to present researches that have transformed this discipline and aided the advancement of this field. It will be helpful to students, experts, researchers and professionals engaged in the fields of digital electronics, computer engineering and telecommunication theory.

## Robotics and Biomimetics: Advanced Technologies

The various sub-fields of robotics along with technological progress that have future implications are glanced at in this book. This discipline is multidisciplinary in nature borrowing from fields such as mechanical engineering and computer science that deals with the design, construction, operation and use of robots. This book elucidates the concepts and innovative models around prospective developments with respect to robotics and biomimetics. The text also provides a broad spectrum of topics to its readers for a better understanding of the subject with state-of-the-art inputs by acclaimed experts of this field, this book targets students and professionals. From theories to research to practical applications case studies related to all contemporary topics of relevance to this field have been included in this book.

# Engineering & Technology



## Electrical Engineering

**Jeremy Giamatti**

ISBN: 978-1-63238-540-6

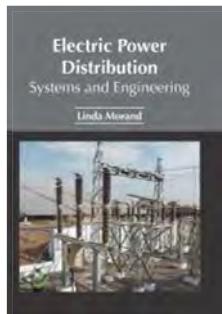
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## Electrical Engineering

**Linda Morand**

ISBN: 978-1-63238-561-1

\$145.00 US

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Book Size: 7"x10"

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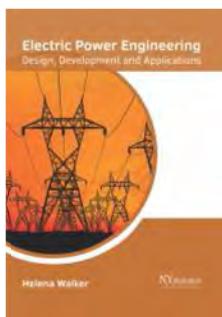
Hardback

## An Integrated Approach to Electrical and Electronics Engineering

The study of electricity and related devices falls under the discipline of electrical engineering. Electronic engineering is a branch of electrical engineering focusing on diverse electrical components for designing advanced devices. This book unfolds the innovative aspects of electrical and electronics engineering which will be crucial for the progress of this field in the future. It strives to provide a fair idea about this discipline and to help develop a better understanding of the latest advances within this area of study. Scientists and students actively engaged in this field will find this book full of unexplored concepts and their applications.

## Electric Power Distribution: Systems and Engineering

This book on electric power distribution discusses the various mechanisms that regulate power transmission. Power is generated across a complex set of pathways and networks. Electric power distribution is a field of study that focuses on the transmission of power from the source of its generation to the end users. The aim of this text is to present researches that have transformed this discipline and aided its advancement. Coherent flow of topics, student-friendly language and extensive use of examples make this book an invaluable source of knowledge. This book is a vital tool for all researching and studying this field. It includes some of the vital pieces of work being conducted across the world, on various topics related to electric power grids and power distribution.



## Electrical Engineering

**Helena Walker**

ISBN: 978-1-63238-536-9

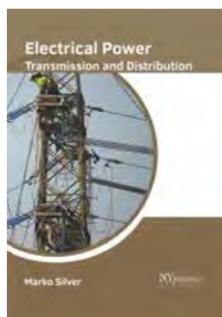
\$145.00 US

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246pp./Colored

Hardback



## Electrical Engineering

**Marko Silver**

ISBN: 978-1-63238-537-6

\$145.00 US

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Book Size: 8.5"x11"

240pp./Colored

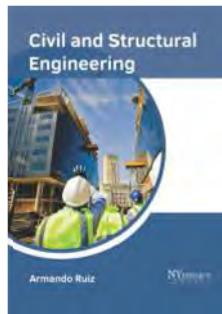
Hardback

## Electric Power Engineering: Design, Development and Applications

Electrical power engineering is defined as the design and manufacture of systems that aid in electric power distribution and transmission. This book on electric power engineering deals with topics related to energy efficient technologies and the manufacture of energy grids as well as storage technologies. This book discusses innovative designs, development techniques and the diverse applications of electric power engineering. The various sub-fields of electric power engineering along with technological progress that have future implications are glanced at. This text is a compilation of chapters that discuss the most vital concepts and emerging trends in this field. With state-of-the-art inputs by acclaimed experts of this field, this book targets students and professionals. A number of latest researches have been included to keep the readers up-to-date with the global concepts in this area of study.

## Electrical Power Transmission and Distribution

Electrical power transmission and distribution are an important area of electrical engineering. This book on electrical power transmission and distribution takes into account the layout, design and manufacture of components that form an electrical grid. There has been rapid progress in this field and its applications are finding their way across multiple industries. Contents included in this book aim to facilitate a comprehensive knowledge in the fields of electrical engineering and efficient electricity generation and consumption. This book is a vital tool for all researching or studying electricity transmission as it gives incredible insights into emerging trends and concepts. The readers would gain knowledge that would broaden their perspective about this field.



## Civil Engineering

**Armando Ruiz**

ISBN: 978-1-63238-538-3

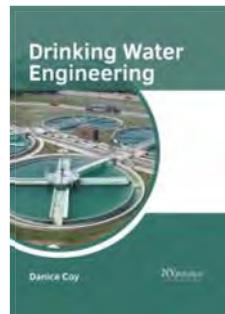
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Year 2017

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Hardback



## Civil Engineering

**Danice Coy**

ISBN: 978-1-63238-532-1

\$145.00 US

Year 2017

Book Size: 8.5"x11"

242pp./Colored

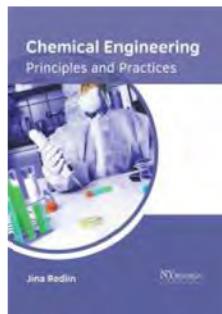
Hardback

## Civil and Structural Engineering

This book on civil and structural engineering discusses the fundamental principles and practices of civil engineering. Civil engineering encompasses many different fields such as urban engineering, architectural engineering, water resources engineering and construction surveying. Structural engineering is a significant aspect of civil engineering as it focuses on the strength and stability of physical structures. The various advancements in this field are glanced at and their applications as well as ramifications are looked at in detail. This book, with its detailed analyses and data, will prove immensely beneficial to professionals and students involved in this area at various levels. Students, researchers, experts and all associated with civil engineering and structural engineering will benefit alike from this text.

## Drinking Water Engineering

Drinking water is necessary for all forms of life. It also plays a crucial role in food preservation. Drinking water engineering aims at devising new techniques to ensure the quality of water and making it safe for consumption by living organisms. The various sub-fields of drinking water engineering along with technological progress that have future implications are glanced at in this book. It aims to provide a general view of the different areas of drinking water engineering, and its applications. While understanding the long-term perspectives of the topics, the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. Scientists and students actively engaged in this field will find this text full of crucial and unexplored concepts.



## Chemical Engineering

**Jina Redlin**

ISBN: 978-1-63238-541-3

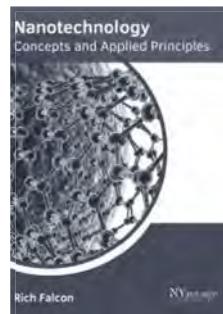
\$149.99 US

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## Nanotechnology

**Rich Falcon**

ISBN: 978-1-63238-535-2

\$144.00 US

Year 2017

Book Size: 8.5"x11"

236pp./Colored

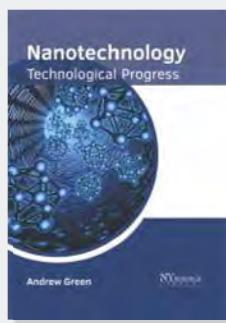
Hardback

## Chemical Engineering: Principles and Practices

This book on chemical engineering explains the fundamental concepts and methods that comprise this field of study. Chemical engineering has contributed extensively to various allied fields such as biochemistry, genomics and protein manipulation and manufacture. From theories to research to practical applications, case studies related to all contemporary topics of relevance to this field have been included in this book. Contents in this book will assist in giving an overall view of the scope of this field. This book will help new researchers by foregrounding their knowledge in this branch. This book, with its detailed analyses and data, will prove immensely beneficial to professionals and students involved in this area at various levels.

## Nanotechnology: Concepts and Applied Principles

Nanotechnology is the design and engineering of materials that are sized in the dimension of 1 to 100 nanometers. This book on nanotechnology deals with the principles and practices that are followed in nanotechnology. Different approaches, evaluations, methodologies and advanced studies on nanotechnology have been included in this book. The contents presented herein discuss the various approaches and techniques that are followed in nanoengineering and the technological innovations related to it. This book consists of contributions made by international experts. As this field is emerging at a rapid pace, the contents of this book will help the readers understand the modern concepts and applications of the subject.



## Nanotechnology

Andrew Green

ISBN: 978-1-63238-550-5

\$140.00 US

Year 2017

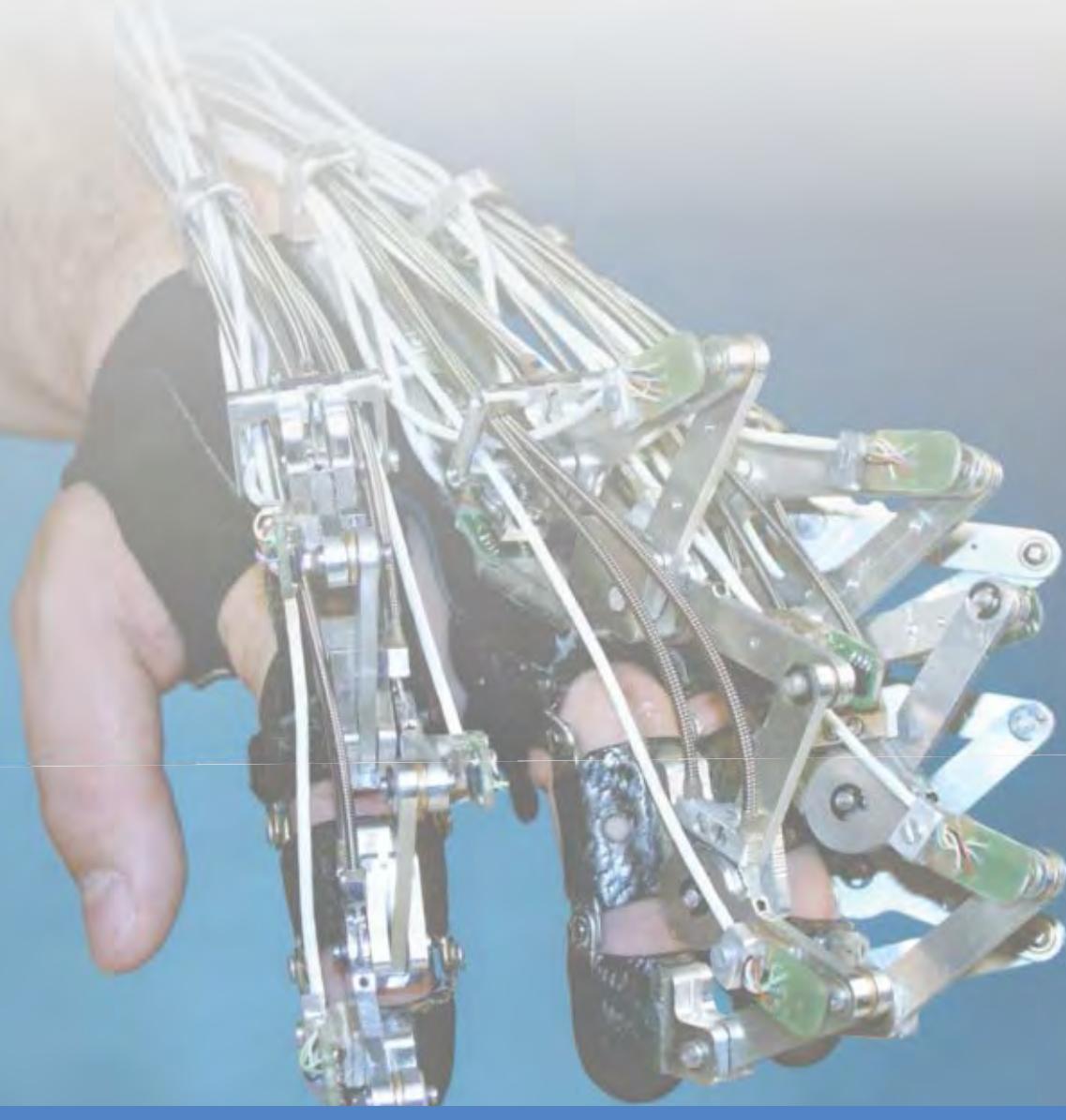
Book Size: 8.5"x11"

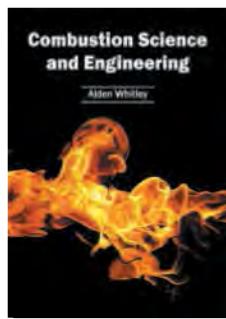
227pp./Colored

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## Nanotechnology: Technological Progress

Nanotechnology is an emerging field of study which has significantly contributed towards the growth of several other disciplines such as engineering, medicine, etc. It is concerned with the manipulation of matter at a minuscule level like atomic or supramolecular level. There has been rapid progress in this field and its applications are finding their way across multiple industries. This book presents the complex subject of nanotechnology in the most comprehensible and easy to understand language. The various sub-fields of this discipline along with technological progress that have future implications are glanced at in this book. As this field is emerging at a fast pace, this book will help the readers to better understand the concepts of nanotechnology.





## Combustion Engineering

**Alden Whitley**

ISBN: 978-1-63238-510-9

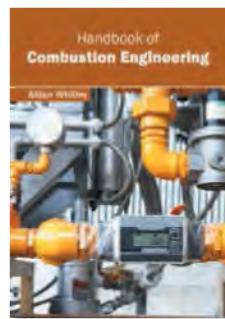
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219pp./Colored

Hardback



## Combustion Engineering

**Alden Whitley**

ISBN: 978-1-63238-516-1

\$144.00 US

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Book Size: 8.5"x11"

245pp./Colored

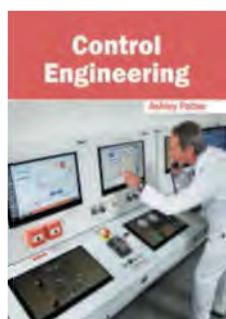
Hardback

## Combustion Science and Engineering

This book elucidates the concepts and innovative models around prospective developments with respect to combustion science and engineering. Combustion refers to a series of exothermic redox chemical reactions between fuel and oxidant which results in production of heat, light and energy. Combustion engineering deals with applying the rules of science and engineering in order to form solutions for problems related to combustion and fire, in various fields. Combustion engineering is used in cars, gas ovens, fossil fuel power plants, steam engines, etc. This book includes topics that are of utmost significance and bound provide incredible insights to readers. Different approaches, evaluations, methodologies and advanced studies on this subject have been included in this text. Scientists, engineers, researchers, students and all related to this field will benefit alike from this text.

## Handbook of Combustion Engineering

Combustion engineering applies the concept of using fuel to produce heat energy. It has applications in diverse areas such as home heating systems, car engines and manufacturing, etc. This discipline deals with evaluation of energy burning systems, combustion supervision and management, heat transference, combustion equipment, etc. This book is a compilation of chapters that discuss the most vital concepts and emerging trends in the field of combustion engineering. Different approaches, evaluations, methodologies and advanced studies revolving around combustion engineering have been included in this book. It is a valuable compilation of topics, ranging from the basic to the most complex technological progress in this area. It is an essential guide for researchers, academicians, students and anyone else who wishes to pursue this discipline further.



## Control Engineering

**Ashley Potter**

ISBN: 978-1-63238-522-2

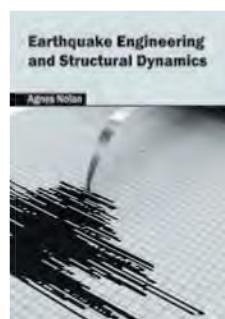
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## Earthquake Engineering

**Agnes Nolan**

ISBN: 978-1-63238-473-7

\$140.00 US

Year 2016

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233pp./Colored

Hardback

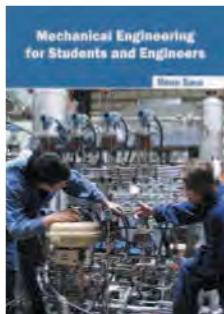
## Control Engineering

This book traces the progress of the field of control engineering and highlights some of its key concepts and applications. It elucidates new theories and techniques in a multidisciplinary approach. Control engineering is a branch of engineering that implements the laws of control theory to design and manufacture systems that are used to control the machines and to monitor their performance in order to enhance their efficiency. A control engineer uses the elements of mathematics and engineering to make the systems work proficiently and smoothly. This text includes detailed explanations of various approaches and techniques of this branch. The topics introduced herein are of utmost significance and are bound to provide incredible insights to readers. This book will prove to be an essential guide for students, scientists, engineers, researchers and all those who are interested in control systems engineering.

## Earthquake Engineering and Structural Dynamics

This book provides comprehensive insights into the fields of earthquake engineering and structural dynamics. It comprises of research work contributed by various experts and researchers in the field of earthquake engineering. Both these disciplines focus on providing solutions to the problems created by damaging earthquakes, by planning, designing, constructing and managing earthquake-resistant structures and facilities. The significant studies included in this book, chart new and vital directions of research in the field of seismology. Several studies included discuss the probability of structural damages, others present approaches related to mitigating the risks of structural damage caused by earthquakes. Through this book, we attempt to further enlighten the readers about the new concepts of these disciplines. This book studies, analyses and upholds the pillar of earthquake engineering and structural dynamics. It is a ripe text for engineers, seismologists, geologists, researchers and students associated with these fields.

# Engineering and Technology



## Mechanical Engineering

**Rene Sava**

ISBN: 978-1-63238-485-0

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Book Size: 8.5"x11"

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## Systems Engineering

**Brian Maxwell**

ISBN: 978-1-63238-502-4

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Year 2016

Book Size: 8.5"x11"

273pp./Colored

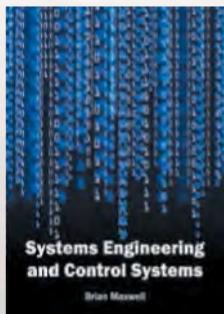
Hardback

## Mechanical Engineering for Students and Engineers

Mechanical Engineering is perhaps the oldest existing branch of engineering. It encompasses designing, manufacturing and maintenance of machines. Technological advances have widened the scope of this discipline. This book brings forth the existing as well as modern approaches of this field. It will also provide interesting topics for research. In this book, using case studies and examples, constant effort has been made to make the understanding of the difficult concepts of mechanical engineering as informative as possible for readers. It aims to serve as a resource guide for students and experts alike and contribute to the growth of this discipline.

## Modern Systems Engineering

Modern systems engineering refers to an interdisciplinary branch of engineering which deals with designing and managing complex engineering systems over their life span. It deals with the issues like reliability, logistics, testing and monitoring which are required for the smooth functioning, development, designing, etc. of a complex system. Its objective is to perform these functions in a cost effective way. This book provides significant information to help develop a good understanding of systems engineering and other modern advances in this area. It explores all the important aspects of this subject in the present day scenario. As this subject is emerging at a rapid pace, the contents of this text will help the readers gain in-depth knowledge of the latest concepts and applications of this field.



## Systems Engineering

**Brian Maxwell**

ISBN: 978-1-63238-503-1

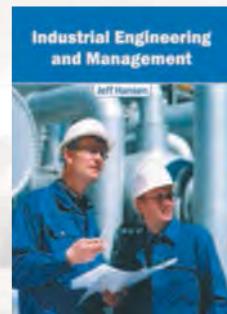
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Year 2016

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## Industrial Design

**Jeff Hansen**

ISBN: 978-1-63238-501-7

\$149.99 US

Year 2016

Book Size: 8.5"x11"

271pp./Colored

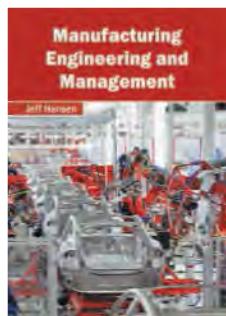
Hardback

## Systems Engineering and Control Systems

Systems engineering is mainly concerned with design and management of complex engineering systems. It tries to incorporate the requirements specified by the end users in the initial steps of system design. This discipline overlaps with control engineering, software engineering, industrial engineering and project management. Control systems are generally used for controlling and regulating the behavior of other devices. There are different kinds of control systems available such as on-off control, logic control, linear control, PID control, etc. This book elucidates new techniques and their applications in a multidisciplinary approach. It presents researches and studies performed by experts across the globe. In this book, using case studies and examples, constant effort has been made to make the understanding of the difficult concepts of systems engineering and control systems as easy and informative as possible, for the readers.

## Industrial Engineering and Management

Industrial engineering specifically focuses on improving quality and productivity. It utilizes a combination of disciplines such as system engineering, manufacturing engineering, operations research, management science and safety engineering to design and optimize complex systems and processes. This branch of engineering tries to reduce or eliminate unproductive processes. Conventionally industrial engineering was used to set up machines and assembly lines for factories and manufacturing units, but now along with setting up a manufacturing unit it also helps in streamlining the procedures. This book elucidates the concepts and innovative models around prospective developments with respect to this field. Those with an interest in the area of industrial engineering would find this book helpful. This book consists of contributions made by international experts which unravel the recent studies and futuristic aspects of industrial engineering.



## Industrial Design

**Jeff Hansen**

ISBN: 978-1-63238-504-8

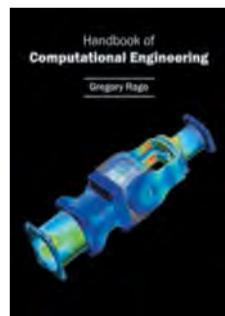
\$155.00 US

Year 2016

Book Size: 8.5"x11"

296pp./Colored

Hardback



## Computer Engineering

**Gregory Rago**

ISBN: 978-1-63238-514-7

\$144.00 US

Year 2016

Book Size: 8.5"x11"

246pp./Colored

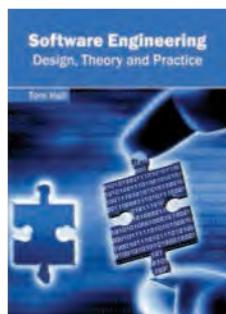
Hardback

## Manufacturing Engineering and Management

This book brings forth some of the most innovative concepts and elucidates the various applications of manufacturing engineering and management. It covers topics which deal with the core areas of this subject. Manufacturing engineering refers to a branch of engineering that deals with design, formation, planning, structuring and developing various systems, machines, tools, etc. The main objective of this field is to turn raw materials into finished goods in an efficient, economic and profitable way. This book is a compilation of chapters that discuss the most vital concepts and emerging trends in this area. Manufacturing engineering is an upcoming field that has undergone rapid development over the past few decades. The various studies that are constantly contributing towards advancing technologies and evolution of this discipline have been compiled in this book. It will prove to be immensely beneficial for students, engineers, managers and researchers related to this field.

## Handbook of Computational Engineering

Computational engineering deals with the design, development and application of computational models and simulations. It includes different frameworks such as high performance computing, algorithms, visualization and analysis of data, data science, etc. It is a rapidly growing discipline and finds applications in a wide variety of areas such as material science, petroleum engineering, chemistry, civil engineering, aerospace engineering, epidemiology, etc. This book presents the complex subject of computational engineering in the most comprehensible and easy to understand language. It is a complete source of knowledge on the present status of this important field. It also aims to serve as a resource guide for students and experts alike and contribute to the growth of the discipline.



## Software Engineering

**Tom Halt**

ISBN: 978-1-63238-480-5

\$149.99 US

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Book Size: 8.5"x11"

275pp./Colored

Hardback



## Software Engineering

**Tom Halt**

ISBN: 978-1-63238-493-5

\$155.00 US

Year 2016

Book Size: 8.5"x11"

283pp./Colored

Hardback

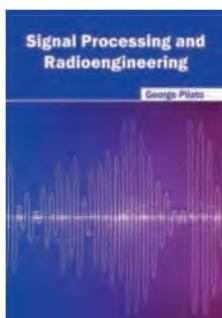
## Software Engineering: Design, Theory and Practice

Software Engineering refers to that branch of engineering which deals with developing, implementing, designing and maintaining of software. It has many sub-divisions like embedded software, software design, software configuration management, software durability, etc. This book will trace the progress made in this field and highlight some of the key concepts and applications related to it. It will provide detailed explanation of the various applications in this area. Different approaches, evaluations and methodologies have also been included. This book aims to present researches that have transformed this discipline and aided its progress. Those with an interest in software engineering will find this book helpful. It will serve as a valuable source of reference for students and researchers alike.

## Software Engineering: Principles and Applications

Software engineering deals with designing codes and programs for universal audience or customized application for a small organization. Softwares are designed with the help of programming languages such as java, C++, and COBOL. This book primarily deals with the core subjects of software engineering such as knowledge acquisition, automated software design and synthesis, automated software specification, software design methods, software domain modeling and meta-modeling, software engineering decision support, etc. The various advancements in this field are glanced at and their applications as well as ramifications are looked at in detail. This book elucidates the principles, concepts and innovative models around prospective developments with respect to this discipline. Students, researchers, experts and all associated with software engineering will benefit alike from this book.

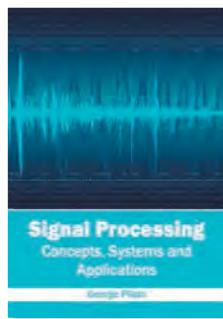
# Engineering and Technology



## Signal Processing

**George Pilato**

ISBN: 978-1-63238-517-8  
\$149.99 US  
Year 2016  
Book Size: 8.5"x11"  
268pp./Colored  
Hardback



## Signal Processing

**George Pilato**

ISBN: 978-1-63238-521-5  
\$155.00 US  
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Book Size: 8.5"x11"  
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## Signal Processing and Radioengineering

Signal processing is the technology used in transferring information contained in different formats called signals. It uses different tools for acquisition, extraction, recovery, sensing, learning and modeling. Radio engineering is mainly concerned with control, coverage and generation of signals of transmission systems. The important topics covered under this discipline include antennas, receivers, amplifiers, tuners, modulators and demodulators. This book discusses the fundamentals as well as modern approaches of signal processing and radioengineering. It includes some of the vital pieces of work being conducted across the globe on various topics related to signal processing and radioengineering. This book attempts to understand the multiple branches that fall under these fields and how such concepts have practical applications. It will serve as a valuable source of reference for graduate and post graduate students.

## Signal Processing: Concepts, Systems and Applications

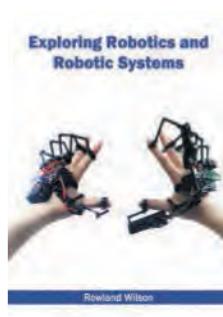
This book aims to equip students, scientists, engineers and experts with advanced topics and upcoming concepts in this field. Signal processing refers to the technology that facilitates the transfer of information of different forms like abstract, physical or symbolic, etc. by using algorithms, fundamental theory, applications and various mathematical concepts like vector spaces, linear algebra, calculus, and many others. It has diverse applications in fields such as wireless communication, video processing, seismology, picture processing, audio signal processing, etc. This book includes contributions of experts, scientists, mathematicians and physicists, which will provide innovative insights into this field. The topics included herein are of utmost significance. Those in search of information to further their knowledge will be greatly assisted by this text.



## Artificial Intelligence

**Jeremy Rogerson**

ISBN: 978-1-63238-468-3  
\$134.99 US  
Year 2016  
Book Size: 8.5"x11"  
217pp./Colored  
Hardback



## Artificial Intelligence

**Rowland Wilson**

ISBN: 978-1-63238-471-3  
\$140.00 US  
Year 2016  
Book Size: 8.5"x11"  
227pp./Colored  
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## Artificial Intelligence: Current Developments and Future Prospects

Artificial intelligence is a field which is based on the belief that human intelligence can potentially be imitated by a machine. Its sole aim is to build intelligent machines that can perfectly accomplish tasks efficiently with intelligent behaviour. This is a highly specialized field of study which is employed in diverse disciplines. Artificial intelligence has many aspects like reasoning, knowledge, planning, learning and perception but its main focus is general intelligence. Due to its promising future, scientists across the globe are interested in this discipline. There has been rapid progress in this field and its applications are finding their way across multiple industries. This book provides students, researchers, experts and all associated with this field with the most advanced researches in this area to help them keep pace with the current progress in artificial intelligence.

## Exploring Robotics and Robotic Systems

Robotics is an umbrella discipline which brings together several different engineering domains such as mechanical engineering, electrical engineering and computer engineering, as well as computer systems for their control, sensory feedback, and information processing. Robotics is a dynamic field, as technological advances continue; building new robots serves diverse practical purposes, both domestically and commercially. Assembly robots, welding robots, combat robots are some of the popular categories of robots in the current times. This book provides a holistic overview of robotics by discussing its components, behaviour, cognition and applications. It brings forth contributions of experts and scientists which will provide innovative insights into this field. Students, researchers, experts, engineers and all associated with robotics will benefit alike from this book.



## Intelligent Systems

**Alfred Silva**

ISBN: 978-1-63238-477-5

\$144.00 US

Year 2016

Book Size: 8.5"x11"

257pp./Colored

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## Intelligent Systems

**Alfred Silva**

ISBN: 978-1-63238-478-2

\$144.00 US

Year 2016

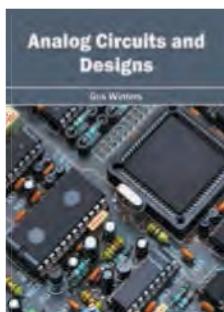
Book Size: 8.5"x11"

247pp./Colored

Hardback

## Intelligent Control Systems

Intelligent control systems use artificial intelligence to manage and control other systems such as production or manufacturing for machines or controlling equipment. These systems utilize fuzzy logic, neural networks, and fuzzy neural networks in principle. Adaptive controls, advanced control algorithms and applications, artificial intelligence, knowledge engineering, automation system, autonomous systems, complex systems and intelligent robots, hybrid systems, industrial automation and online monitoring, integrated and complex automation systems, intelligent automation and manufacturing are some of the important topics discussed in this book. It strives to provide a fair idea about this discipline and to help develop a better understanding of the latest advances within this field. While understanding the long-term perspectives of the topics, the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. Researchers and students actively engaged in this field will find this book full of crucial and unexplored concepts.



## Analog Circuits

**Gus Winters**

ISBN: 978-1-63238-523-9

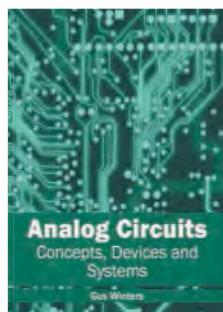
\$149.99 US

Year 2016

Book Size: 8.5"x11"

269pp./Colored

Hardback



## Analog Circuits

**Gus Winters**

ISBN: 978-1-63238-506-2

\$129.99 US

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Book Size: 8.5"x11"

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## Analog Circuits and Designs

This book will elucidate new techniques and their applications in a multidisciplinary approach. It will discuss the fundamental and modern approaches of analog circuits. As a branch of engineering, analog circuit refers to the signals which vary from zero to full power supply voltage. They are also referred to as linear signals because they provide continuous signal range which is not present in other circuits like digital circuits. This book includes detailed explanations of the various methods and theories related to analog circuits and their designing. It also provides interesting topics for research which readers can take up. The researches presented in this extensive text deal with the core subjects related to this branch. Those interested in this field will find this book full of crucial information. It is a vital tool for all researching and studying this field.

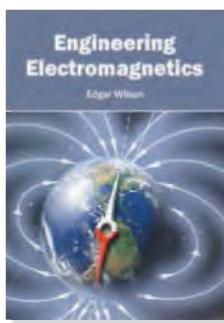
## Intelligent Systems: Modeling, Automation and Control

Intelligent systems are special purpose embedded machines that are used to control and communicate with other systems. These systems have the ability to adapt to fluctuations and requirements of the host system. They exist across a variety of systems such as automobiles, smart television, meters, digital signage and airplane controls. Adaptive controls, automation system, advanced control algorithms and applications, computational intelligence and applications, hybrid systems, optimization, intelligent automation and manufacturing, modeling, etc. are some of the topics discussed in this book. The ever growing need for advanced technology is the reason that has fueled the research in this field in recent times. Most of the studies covered in this book unravel the latest techniques and applications of intelligent systems. It will serve as a valuable source of reference for graduate and post graduate students.

## Analog Circuits: Concepts, Devices and Systems

Analog circuits are very sophisticated designs that can be either complex or simple like combination of two resistors to make a voltage divider. These are characterized by the use of continuous time voltages and currents. The components of analog circuits involve capacitors, inductors, wires, resistors, diodes and transistors. This book will prove to be immensely beneficial to students and researchers involved in this area. The topics covered herein offer the readers new insights in the field of analog circuits. This book brings forth some of the most innovative concepts and elucidates the unexplored aspects of analog circuits. Coherent flow of topics, reader-friendly language and extensive use of examples make this book an invaluable source of knowledge.

# Engineering and Technology



## Electromagnetism

**Edgar Wilson**

ISBN: 978-1-63238-500-0

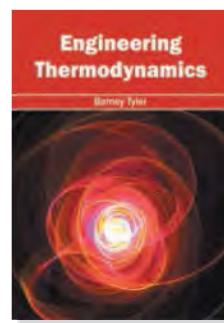
\$155.00 US

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Book Size: 8.5"x11"

286pp./Colored

Hardback



## Thermodynamics

**Barney Tyler**

ISBN: 978-1-63238-524-6

\$155.00 US

Year 2016

Book Size: 8.5"x11"

293pp./Colored

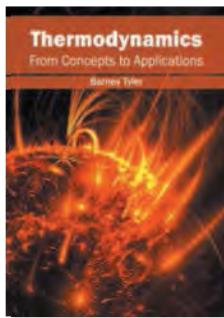
Hardback

## Engineering Electromagnetics

Electromagnetics refers to the study of magnetism and electricity and their inter-relation. It is a branch of physics which deals with studying electromagnetic fields produced by electrically charged objects. The applications of electromagnetic fields are used in various motors, CAT scanners, TVs, radio transmissions, magnetic resonance imaging, common speakers, etc. This book contains some path-breaking studies related to this field. It includes a detailed explanation of the various theories and applications of electromagnetism. The topics included in this text are of utmost significance and are bound to provide incredible insights to the readers. It includes contributions of experts and scientists from across the globe and thus, will serve as a reference guide to students, scientists, physicists, engineers, researchers, and all those who are interested in this subject.

## Engineering Thermodynamics

Thermodynamics is a branch of physics that is concerned with studying the relationship between heat and energy. Thermodynamics as a part of engineering correlates macroscopic properties like temperature, pressure, etc. to energy and its efficiency. It has various branches such as extended thermodynamics, classical thermodynamics, local equilibrium thermodynamics, etc. The different applications of this field are used in jet engines, steam turbines, turbo chargers, refrigerators, etc. This book discusses in detail the various concepts and applications of this discipline. It includes topics of utmost significance which will help readers gain in-depth knowledge about thermodynamics. It will help researchers by foregrounding their knowledge in this field.



## Thermodynamics

**Barney Tyler**

ISBN: 978-1-63238-525-3

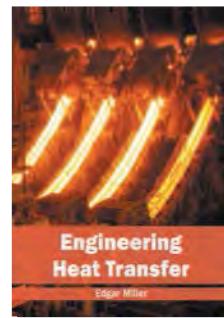
\$155.00 US

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294pp./Colored

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## Heat Transfer

**Edgar Miller**

ISBN: 978-1-63238-520-8

\$155.00 US

Year 2016

Book Size: 8.5"x11"

281pp./Colored

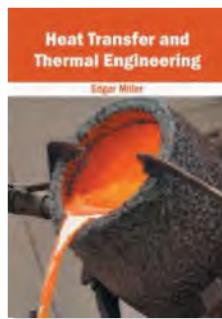
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## Thermodynamics: From Concepts to Applications

Thermodynamics is the branch of physics that is concerned with the study of temperature and heat in relation to work and energy. It mainly focuses on macroscopic explanations of processes and bodies. Entropy, internal energy and pressure are the commonly known variables that are dealt with in this discipline. It is applied to a wide variety of areas such as chemical engineering, mechanical engineering and physical chemistry. This book provides comprehensive insights into the field of thermodynamics. The various studies that are constantly contributing towards advancing technologies and evolution of this field are examined in detail. The aim of this text is to present researches that have transformed this discipline and aided its advancement. Scientists and students actively engaged in this area of study will find this book full of crucial and unexplored concepts.

## Engineering Heat Transfer

This book traces the progress of the field of heat transfer engineering and highlights some of its key concepts and applications. Heat transfer refers to the study and applications of engineering practices used to transfer and exchange thermal energy and heat from one physical system to other. It has various mechanisms like thermal radiation, thermal conduction, transfer of energy, thermal convection, etc. These studies are applied in different engineering subjects like automotive, materials processing, power station, climate engineering, etc. The topics introduced in this book are of utmost significance and are bound to provide in-depth knowledge about this topic to readers. It is a compilation of chapters that discuss most vital concepts and emerging trends in this field. Students, scientists, engineers, researchers and all those interested in heat transfer will find this book greatly beneficial.



## Heat Transfer

**Edgar Miller**

ISBN: 978-1-63238-513-0  
\$144.00 US  
Year 2016  
Book Size: 8.5"x11"  
243pp./Colored  
Hardback



## Recycling

**Adele Cullen**

ISBN: 978-1-63238-505-5  
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## Heat Transfer and Thermal Engineering

Heat transfer is the exchange of thermal energy between physical systems. Thermal engineering encompasses mass transfer, fluid mechanisms, heat transfer, and thermodynamics. There has been rapid progress in this field and its applications are finding their way across multiple industries. Solar heating, boiler design, thermal power plants, cooling systems, designing of combustion systems and cooling of computer chips are some of the important applications of these disciplines. This book is compiled in such a manner, that it will provide in-depth knowledge about the theory and practice of heat transfer and thermal engineering. Selected researches that redefine the concepts of this discipline have been presented in this text. With state-of-the-art inputs by acclaimed experts of this field, this book targets students and professionals alike and aims to contribute to the growth of the discipline.

## Waste Management: Concerns and Challenges

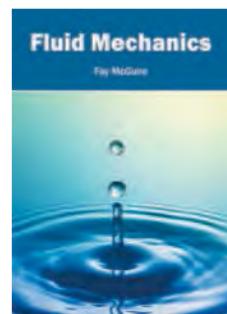
Waste management refers to the practice of managing waste from its source till its disposal. It focuses on regulating and monitoring the transportation, collection, treatment and disposal of waste in an efficient way. The main objective of this system is to minimize the adverse effects caused by waste on environment and living beings and also to control its rapid growth. This book will discuss the issues related to waste management and will propose some of the theories to control it. It will provide the readers with in-depth knowledge about the growing problems related to waste management. The topics included in this text are very crucial for students, researchers, environmentalists, ecologists and all those who are interested in this field.



## Recycling

**Adele Cullen**

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## Fluid Dynamics

**Fay McGuire**

ISBN: 978-1-63238-495-9  
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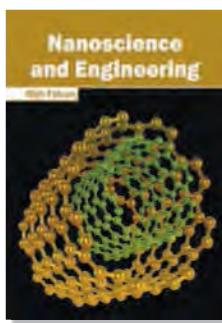
## Fluid Mechanics

Application of the laws of force and motion to fluids is what fluid mechanics deals with. It has two main branches fluid statics and fluid dynamics. Fluid statics studies fluids at rest while fluid dynamics focuses on fluids in motion. It is applied to the areas such as industrial gas supply, designing of a hydro power plant, even water supply of a household. It is an active field of research, because of many problems that are fully or partially unresolved. This book is a compilation of chapters that discuss the most vital concepts and emerging trends in this area. It aims to shed light on some of the unexplored aspects of fluid mechanics and the recent researches in this field. It will help readers in keeping pace with the rapid changes in this discipline.

## Waste Resources: Recycling and Management

The rise in population and industrialization has also resulted in increased amounts of wastage. Some of these also result in environmental and health hazards. Waste resources are the byproducts of different processes such as industrial waste, farmland waste, kitchen waste, human and animal waste. Tackling this enormous amount of waste requires special techniques, methods and classification of these resources into different categories. Different approaches, evaluations, methodologies and advanced studies revolving around waste recycling and management have been presented in this text. It encompasses contributions of experts from across the globe that discuss the most vital concepts and emerging trends with a global perspective. From theories to research to practical applications, case studies related to all contemporary topics of relevance have been included in this book. It will provide comprehensive knowledge to the readers. This book will serve as a valuable source of reference for environmentalists, ecologists, conservationists, engineers, academicians and students.

# Engineering and Technology



## Nanotechnology

**Rich Falcon**

ISBN: 978-1-63238-497-3

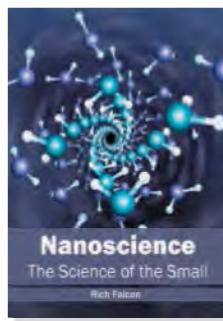
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## Nanotechnology

**Rich Falcon**

ISBN: 978-1-63238-496-6

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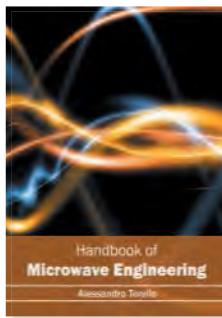
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## Nanoscience and Engineering

This book unravels the recent studies in the field of nanoscience. It includes some of the vital pieces of work being conducted across the globe, on various topics related to this field. Nanoscience refers to study of the structures that have nanoscale dimensions. It studies the operations and characteristics of these structures. With the help of engineering, appropriate tools are designed to study nanostructures like specialized microscopes, etc. The principles of nanoscience are applied in diverse areas such as medicine, computer science, energy, information technology, etc. Most of the topics introduced in this book cover new techniques and their different applications in this discipline. The ever growing need for advanced technology is the reason that has fueled the research in this subject. This text will serve as a beneficial reference guide for engineers, researchers, professionals, academicians and students engaged in the field of nanoscience.

## Nanoscience: The Science of the Small

Nanoscience is the study of extremely small matter particularly on molecular, super molecular and atomic scale. These matters are used across different disciplines namely physics, biology, chemistry, engineering and materials science. The current areas of research in nanoscience ranges from carbon nanotubes, nanorods, nanomedicine, nanopillars employed in solar cells, nanoparticles in biological imaging, to nanomaterials used in drug delivery. This book is a complete source of knowledge on the present status of this important field. While understanding the long-term perspectives of the topics the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. The rapid progress happening in this field across the globe has been extensively covered in it. For someone with an interest and eye for detail, this text covers the most significant topics of nanoscience.



## Microwave Technology

**Alessandro Torello**

ISBN: 978-1-63238-519-2

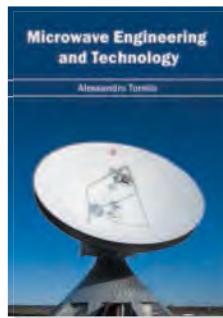
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## Microwave Technology

**Alessandro Torello**

ISBN: 978-1-63238-518-5

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247pp./Colored

Hardback

## Handbook of Microwave Engineering

This book discusses the fundamentals as well as modern approaches of microwave engineering. It outlines the processes and applications of this field in detail. Microwave engineering refers to that area of science and technology which studies the design and applications of microwave circuits and systems. This field of study is used in making satellites, radars, wireless radios, etc. This book presents researches and studies performed by experts across the globe. It attempts to understand the multiple branches that fall under this discipline and comprehend how such concepts have practical applications. This book studies, analyses and upholds the pillars of microwave engineering and its utmost significance in modern times. This text is appropriate for students seeking detailed information in this area as well as for experts.

## Microwave Engineering and Technology

Microwaves are electromagnetic radiations with varied wavelengths. These waves are used for point-to-point telecommunications, navigation, radar, heating and power application, radio astronomy and spectroscopy. Microwave engineering aids the manufacturing and design of components, circuits and systems for deploying different technologies. Some of the frequently used technologies in this field are antennas, transmission lines, measurements, remote sensing, etc. This book presents researches and studies performed by experts across the globe. While understanding the long-term perspectives of the topics, the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. It will help the readers in keeping pace with the rapid changes in this field. This text attempts to assist those with a goal of delving deeper into the subject of microwave engineering and technology. It will benefit researchers, professionals and students alike.



## Welding

### Howard Currant

ISBN: 978-1-63238-509-3

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## Operations Research

### Courtney Hoover

ISBN: 978-1-63238-499-7

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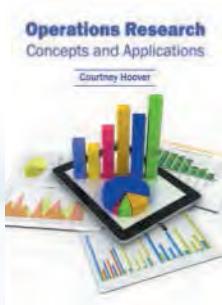
Hardback

## Welding Engineering

This book provides comprehensive insights into the field of welding engineering. As a branch of engineering, welding engineering deals with the study and practice of welding, cutting and brazing. The applications of this field are spread across various areas like, ship building, aerospace, nuclear power and mining, etc. It encompasses the elements of mathematics, chemistry, physics, physical metallurgy, thermodynamics, engineer mechanics, etc. This book elucidates the concepts and innovative models around prospective developments with respect to this discipline. It provides readers with diverse topics, which address the varied branches and applications of welding engineering. It aims to serve as a resource guide for readers and contribute to the growth of this area. Through this book, we attempt to further enlighten engineers, welders, scientists, builders, practitioners and students about the new techniques in this field.

## Operations Research and Management

Operations research mainly focuses on providing professionals with the tools and techniques that facilitate better decision making. It uses mathematical analysis, statistics and mathematical modeling for this purpose. Organizations often face the dilemma of selecting an optimum solution among several lucrative choices; operations research provides them with the tools to compare these options. Operations management on the other hand deals with redesigning business processes, scheming, controlling and managing production. While operations research deals with the quantitative analysis, operations management is the combination of both qualitative and quantitative aspects. This book studies, analyses and uphold the pillars of these fields and their utmost significance in modern times. For all readers who are interested in these disciplines, the case studies included in this book will serve as an excellent guide to develop a comprehensive understanding. This text is a compilation of chapters that discuss the most vital concepts and emerging trends in the field of operations research and management.



## Operations Research

### Courtney Hoover

ISBN: 978-1-63238-498-0

\$140.00 US

Year 2016

Book Size: 8.5"x11"

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## Operations Research: Concepts and Applications

Operations research is mainly concerned with the application and creation of decision making tools. This discipline employs mathematical science, statistical analysis, and mathematical optimization. It is often applied to real world problems to determine the maximum and minimum of quantities such as profit, output and inventory. This book covers some topics of crucial importance related to this field such as simulation, discrete systems, time series analysis, decision support systems, product management, quality management, logistics, warehousing, etc. It elucidates new techniques and their applications in a multidisciplinary approach. It attempts to understand the multiple branches that fall under this discipline and how such concepts have practical application in the current scenario. The topics covered in this book offer the readers new insights in the field of operations research.

# Engineering & Technology

**BEARINGS**  
Assessment of Performance



## Engineering & Technology

**Elaine Pitlik**

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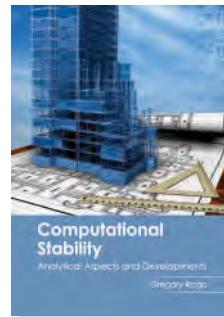
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## Engineering & Technology

**Gregory Rago**

ISBN: 978-1-63238-089-0

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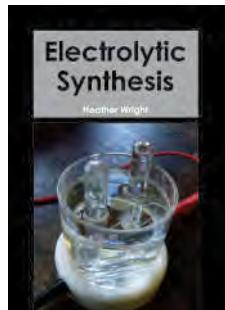
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## Bearings: Assessment of Performance

The performance of bearings has been analysed in this insightful book. Bearings (both plain and rolling material) are significant supporting materials for locating rotating components and confining their motion in the desired direction. In order to ensure their operational reliability and desired life, bearings need to be properly chosen for an application, primarily due to the constantly increasing operational speeds. This requires a careful performance analysis of various types of bearings while considering aspects like thermal stability, lubrication, contaminants in lubricants and controlling mechanism, etc. This book consists of several aspects contributing towards the performance analysis of plain bearings (both journal and thrust), rolling element bearings and magnetic bearings.

## Computational Stability: Analytical Aspects and Developments

The analytical aspects and developments in the concepts of computational stability are discussed in this book. Stability is the primary concern in both design and evaluation of load-carrying systems and is a major issue in the area of engineering science and mechanics. Structural instability may cause catastrophic failure of engineering structures; hence, stability requirements must be fulfilled. Comprehension of this topic is highly significant in the fields of civil, mechanical and aerospace engineering. This book discusses the state-of-the-art in stability analysis and compiles several researches demonstrating the developments in this area. It also comprises of original and innovative research studies showcasing different investigation directions and angles.



## Engineering & Technology

**Heather Wright**

ISBN: 978-1-63238-123-1

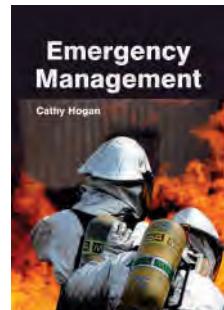
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**Cathy Hogan**

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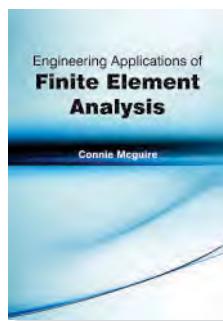
Hardback

## Electrolytic Synthesis

This book is a detailed and comprehensive medium helping students and researchers to understand electrolytic synthesis. The three most important applications of technological electrolysis - water electrolysis (hydrogen production), industrial electrolysis and environmental electrolysis have been described in this book. Various international experts in different fields of electrolysis have contributed in this book and the content not only presents reviews and literature references, but also inferences from original results. This book will prove to be a valuable source of information to the readers and the science of electrolysis will reveal surprising discoveries in the future, if current progress moves ahead at the right pace.

## Emergency Management

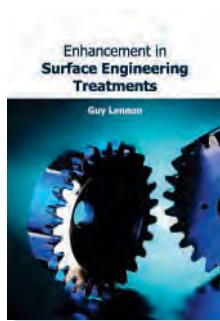
Emergency management is an intricate practice which can save considerable losses during times of calamity if applied efficiently. In the wake of large-scale disasters that we have seen lately, it is obvious that complex and coordinated emergency management systems are needed for efficient and effective relief efforts. Such management systems can only be created by involving various scientists and practitioners from different areas. This book caters to several issues like the impact of human nature, advancement of hardware and software architectures, cyber security concerns, dynamic methods of guiding evacuees and routing vehicles, supply allocation, vehicle routing difficulties in preparing for and responding to large scale emergencies. Researchers, engineers and students of all academic fields would find this book useful. It specially caters to those in the areas of operations of research, human factor and computers. It is also a useful reference for practitioners of emergency management strategies.



## Engineering & Technology

**Connie McGuire**

ISBN: 978-1-63238-178-1  
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## Engineering & Technology

**Guy Lennon**

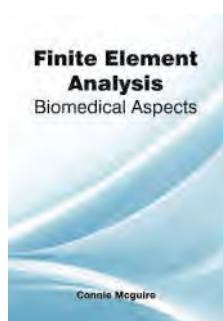
ISBN: 978-1-63238-180-4  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
239pp./Colored  
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## Engineering Applications of Finite Element Analysis

This book discusses the engineering applications of finite element analysis. In the past few years, Finite Element Analysis (FEA) has been refined into an important and necessary technology in the modeling and simulation of several engineering systems. This book includes contributions made by professionals from international scientific organizations. It compiles authentic and interesting research studies on the applications of FEA in some major areas of mechanical engineering like fluid mechanics and heat transfer, machine elements evaluation and design, machining and product design, wave propagation and failure evaluation, and structural mechanics and composite materials. This book presents an overview of contemporary research activities across the globe in this area and will be beneficial to a large number of researchers. The introductions, data and references provided in the book will help the readers learn more about this subject.

## Enhancement in Surface Engineering Treatments

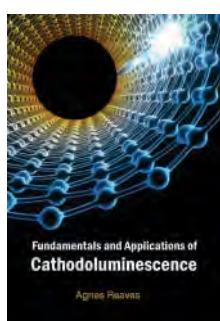
Surface engineering is the phenomenon which facilitates the application of various technologies in a broad spectrum of industrial activities. It was developed by investigating multiple phenomena which result in the destruction of surfaces like abrasion, corrosion, fatigue, and disruption. Soon enough, it was acknowledged that most of the advances in technology were limited with surface requirements. From oil and gas exploitation, to mining and manufacturing, various fields have generated critical problems in technological development due to surfaces. With time, there has been development of new techniques which have served as avenues for enhancing surface properties like abrasion, wear rate and corrosion resistance. Some of the latest advancements in surface engineering have been discussed in this book.



## Engineering & Technology

**Connie McGuire**

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## Engineering & Technology

**Agnes Reaves**

ISBN: 978-1-63238-207-8  
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Book Size: 6"x9"  
336pp./Colored  
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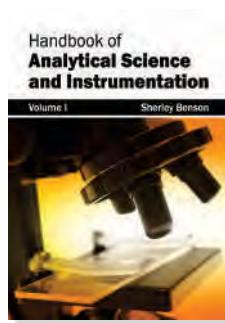
## Finite Element Analysis: Biomedical Aspects

Finding approximate solutions to partial differential equations and integral equations, allowing numerical assessment of complicated structures based on their material properties is best represented by the mathematical method of Finite Element Analysis. This book presents varied topics on the utilization of Finite Elements in biomedical engineering under two sections on "Dentistry, Dental Implantology and Teeth Restoration" and "Cardiovascular and Skeletal Systems". The structure and language of the book has been so written that it is useful for graduate students learning applications of finite element and also encompasses topics and reference material useful for research and professionals who want to gain a deeper knowledge of finite element analysis.

## Fundamentals and Applications of Cathodoluminescence

The fundamentals and applications of cathodoluminescence are provided in this detailed book. Cathodoluminescence (CL) is a mechanism to identify optical and electronic properties of nanostructures in distinctive materials. Some of the essential topics of evaluation are fundamentals of semiconductors, impurities in oxides and phase determination of minerals. This book deals with carrier concentration, diffusion length, minority carriers in semiconductors, amount of impurity and phase composition in materials. This book encompasses the fundamentals as well as applications of cathodoluminescence to diverse range of materials like thin films, oxides and minerals in the field of material science.

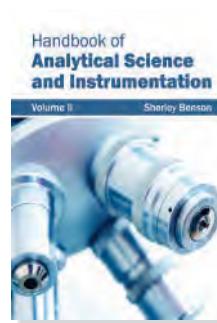
# Engineering & Technology



## Engineering & Technology

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## Engineering & Technology

Sherley Benson

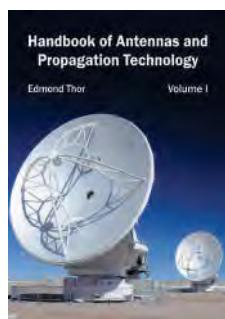
ISBN: 978-1-63238-223-8  
\$154.99 US  
Year 2015  
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## Handbook of Analytical Science and Instrumentation: Volume I

This book is an effort to elucidate the upcoming field of analytics and its advancements. The researches within hope to probe the different analytical sciences and the methods and instrumentations that appear to stem from them. The different steps of the analytical method are glanced at with corresponding case studies that will be helpful in understanding the field better. The proper usage and handling of analytical instruments are also explained. Students of science shall find this book particularly helpful.

## Handbook of Analytical Science and Instrumentation: Volume II

This book is an effort to elucidate the upcoming field of analytics and its advancements. The researches within hope to probe the different analytical sciences and the methods and instrumentations that appear to stem from them. The different steps of the analytical method are glanced at with corresponding case studies that will be helpful in understanding the field better. The proper usage and handling of analytical instruments are also explained. Students of science shall find this book particularly helpful.



## Engineering & Technology

### Edmond Thor

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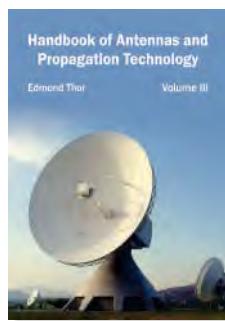
ISBN: 978-1-63238-225-2  
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## Handbook of Antennas and Propagation Technology: Volume I

One of the major advancements in the recent past has been in the sector of antennas. From broadcasting to Bluetooth-enabled devices to going wireless; all this progress falls under the umbrella of antennas and propagation. Thus, it is very clear that this sector has contributed majorly to our present lifestyle in manifold ways. This book attempts to understand the multiple branches that fall under the field of antennas and propagation and how the future of this field will impact our world. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are discussed in detail. Those in search of information to further their knowledge of this field will be greatly assisted by this book.

## Handbook of Antennas and Propagation Technology: Volume II

One of the major advancements in the recent past has been in the sector of antennas. From broadcasting to Bluetooth-enabled devices to going wireless; all this progress falls under the umbrella of antennas and propagation. Thus, it is very clear that this sector has contributed majorly to our present lifestyle in manifold ways. This book attempts to understand the multiple branches that fall under the field of antennas and propagation and how the future of this field will impact our world. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are discussed in detail. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



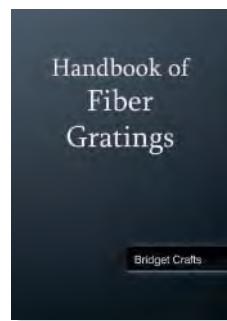
## Engineering & Technology

### **Edmond Thor**

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## **Handbook of Antennas and Propagation Technology: Volume III**

One of the major advancements in the recent past has been in the sector of antennas. From broadcasting to Bluetooth-enabled devices to going wireless; all this progress falls under the umbrella of antennas and propagation. Thus, it is very clear that this sector has contributed majorly to our present lifestyle in manifold ways. This book attempts to understand the multiple branches that fall under the field of antennas and propagation and how the future of this field will impact our world. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are discussed in detail. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



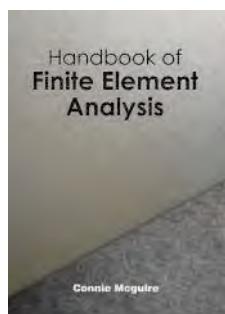
## Engineering & Technology

### **Bridget Crafts**

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## **Handbook of Fiber Gratings**

This book includes of a compilation of valuable information contributed by distinct veterans from across the globe, elucidating the recent research trends in both short- and long-period fiber grating technology. It is primarily intended for researchers already engaged in this area, but it is also useful for anybody with a scientific background who is interested in an up-to-date analysis of the current growth in this domain. It will also prove to be useful for engineers and scientists who have become recently involved in this field. The aim of this book is to examine the present research in this area, displaying the current progresses in the field of fiber gratings.



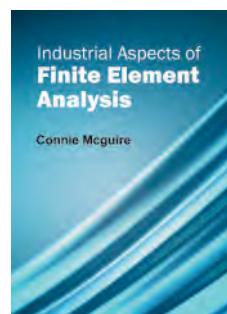
## Engineering & Technology

### **Connie McGuire**

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## **Handbook of Finite Element Analysis**

The concept of finite element analysis has been described in this exhaustive book. In the past few years, the Finite Element Method (FEM) has evolved into a crucial technology in the modeling and simulation of several manufacturing systems. This text presents the latest study and growth discoveries on this extensive subject through unique and pioneering research studies providing a variety of examination tracks of FEM in electrical, civil and biomedical engineering. This book is a compilation of several well researched data which will help the experts and students in accomplishing these respective researches. We intend to provide some of the vital facts regarding FEM to our readers.



## Engineering & Technology

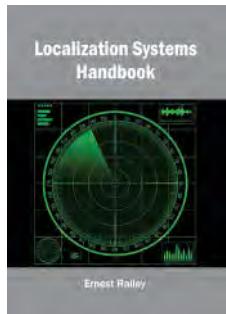
### **Connie McGuire**

ISBN: 978-1-63238-292-4  
 \$110.00 US  
 Year 2015  
 Book Size: 6"x9"  
 224pp./Colored  
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## **Industrial Aspects of Finite Element Analysis**

Finding approximate solutions to partial differential equations, and integral equations, allowing numerical assessment of complicated structures based on their material properties is best represented by the mathematical method of Finite Element Analysis. This book presents varied topics on the utilization of Finite Elements, varying from manufacturing technology to industrial developments. The structure and language of the book has been so written that it is useful for graduate students learning 'applications of finite element modeling and analysis' and also encompasses topics and reference material useful for research and professionals who want to gain a deeper knowledge of finite element analysis.

# Engineering & Technology



## Engineering & Technology

**Ernest Railey**

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## Engineering & Technology

**Casan Anderson**

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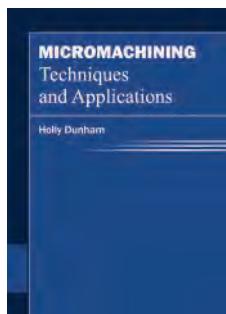
Hardback

## Localization Systems Handbook

Precise determination of the mobile position constitutes the basis of several novel applications. This book presents a descriptive account of wireless systems for signal processing, performances assessment, positioning, localization applications, etc. It also discusses satellite systems for positioning such as GNSS, GPS, etc. as well as localization applications employing the wireless sensor networks. Certain methodologies are presented for localization systems, specifically for indoor positioning, like Ultra Wide Band (UWB), WiFi. The book also discusses coupled GPS and other sensors. Some results of tests, simulations and implementation are provided to assist readers in comprehending the described techniques. This book is intended for a wide spectrum of readers including PhD research scholars, engineers and academics engaged in this extensive field.

## Magnetic Sensors: Fundamentals and Applications

The fundamentals and applications of magnetic sensors are encompassed in this book. It presents an overview on the research conducted in recent years in the field of magnetic sensors. The topics covered in this book vary from underlying theories and properties of magnets to their sensing applications in areas such as biomedicine, microelectromechanical systems, nano-satellites and pedestrian tracking. This book has been compiled for readers who wish to gain a basic understanding of the research domain as well as explore potential areas of applications for magnetic sensors. It also presents novel developments in this field in an efficient and legible manner.



## Engineering & Technology

**Holly Dunham**

ISBN: 978-1-63238-326-6

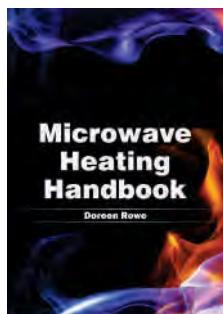
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## Engineering & Technology

**Doreen Rowe**

ISBN: 978-1-63238-328-0

\$110.00 US

Year 2015

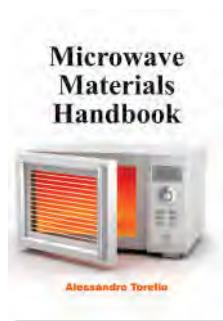
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## Microwave Heating Handbook

This book presents the readers with all the essential aspects associated with the phenomenon of microwave heating. Microwave heating has numerous applications ranging from the microwave ovens in kitchen for heating food, to a sterilization setup for medical treatment, to processing of materials in the distinct fields. This phenomenon holds considerable benefits over the conventional techniques in the aspects of less processing time and reduced environmental impacts as reflected through those applications. This book covers both the general understandings as well as advance applications of microwave heating. The book contains discussions and information on the application of this technique in the areas of chemical engineering, forestry, food, mineral processing industry and agriculture in order to provide a base for future research. The aim of this book is to serve as an elementary reference source to help the readers focus on important aspects behind the success of microwave heating.



## Engineering & Technology

**Alessandro Torello**

ISBN: 978-1-63238-329-7

\$95.00 US

Year 2015

Book Size: 6"x9"

169pp./Colored

Hardback



## Engineering & Technology

**Ed Diego**

ISBN: 978-1-63238-350-1

\$160.00 US

Year 2015

Book Size: 6"x9"

410pp./Colored

Hardback

## Microwave Materials Handbook

This book aims to serve as a resource guide for microwave materials. It discusses current studies on fundamental and modern measurement methods for the evaluation of substances at microwave frequencies. The book is separated into several different sections. It deals with current contributions on modern methods for the evaluation of dielectric substances. Microwave evaluation of organic tissues is, also, thoroughly explained. This book intends to provide useful information regarding the above stated topic to its readers.

## New Technologies: New Frontiers and Innovations

This book presents researches accomplished by experts around the globe, serving as a precious tool for students and professionals. The book discusses the novel frontiers and advancements in the field of new technologies. It consists of contributions made by researchers from across the globe and from some latest fields of technology, serving as a useful tool for researchers, students, professionals as well as scientists. Practical applications in specific areas have been covered in this book, offering the capability to resolve complications resulted from economic requirements and to perform specific functions. This book will enable engineers and scientists to get acquainted with the ideas from researchers from modern fields of activity. It contains interesting examples of practical applications of knowledge and is believed to assist in the procedure of designing and upgrading their research areas. A compilation of methodologies, that integrate scientific resources, has been covered in this book to make required products with the desired quality criteria. Powerful scientific and mathematical concepts were employed in the applications. They meet the needs of usability, safety and utility. Technological applications illustrated in this book have specific functions which may be exploited with competitive benefits. The book elucidates subjects like nanotechnologies, telecommunications, speech technologies, physics, robotics, etc.



## Engineering & Technology

**Brian Hurley**

ISBN: 978-1-63238-401-0

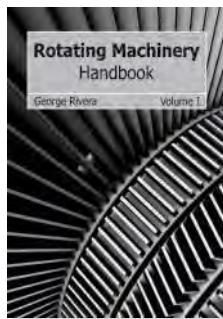
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Year 2015

Book Size: 6"x9"

359pp./Colored

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## Engineering & Technology

**George Rivera**

ISBN: 978-1-63238-403-4

\$154.99 US

Year 2015

Book Size: 8.5"x11"

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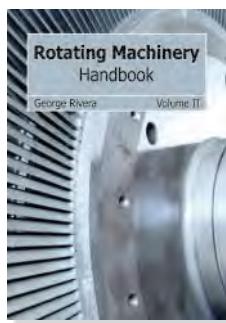
## Risk Assessment: Innovative Approaches and Applications

Innovative approaches and applications in the area of risk assessment are discussed at length in this book. Risk assessment is a crucial component in the interpretation and protection of natural or anthropogenic systems. Risk evaluation involves some necessary steps like the identification of the problem, risk estimate and assessment review. The book also discusses other new approaches. It is compiled to disseminate current knowledge on risk evaluation methods and their effectiveness. This book covers a range of subjects from environmental quality to human health protection.

## Rotating Machinery Handbook: Volume I

A comprehensive background in the design and operational aspects of the different categories of rotating machinery and their applications that come under the aegis of oil, power, marine and other surface industries are provided in this book. Those who are looking to further their knowledge in this field will be given in-depth explanations of the design, operation, maintenance and development aspects of rotating machinery. This book also provides discussions on the current advancements in technology for rotating machinery and the prospective future of this field.

# Engineering & Technology



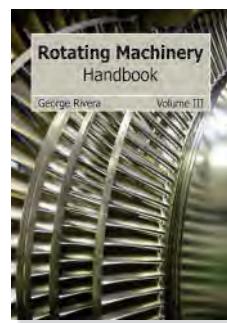
## Engineering & Technology

**George Rivera**

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### **Rotating Machinery Handbook: Volume II**

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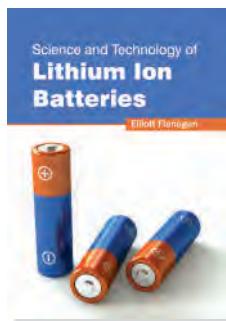
## Engineering & Technology

**George Rivera**

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### **Rotating Machinery Handbook: Volume III**

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## Engineering & Technology

**Elliott Flanagan**

ISBN: 978-1-63238-408-9  
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Year 2015  
Book Size: 6"x9"  
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Hardback

### **Science and Technology of Lithium Ion Batteries**

The science and technology of lithium ion batteries has been elaborated in this all-inclusive book. There have been a number of extensive books on Lithium Ion Batteries (LIBs) on the basis of several viewpoints. However, only few books elucidate the current status and future of prospective LIBs, specifically for EVs and HEVs. In this context, this book presents an overview on the current state of LIBs and where research and developments are directing their prospects. It will be a beneficial resource not only for experts, but also for undergraduates and postgraduates interested in studying about this field. It will meet their needs of receiving a general overview on LIBs, particularly for heavy duty applications including EVs or HEVs.



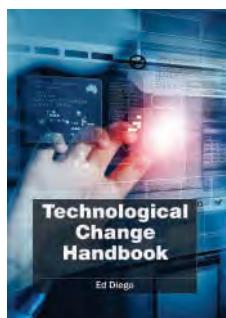
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**Ed Diego**

ISBN: 978-1-63238-427-0  
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Year 2015  
Book Size: 6"x9"  
358pp./Colored  
Hardback

### **State-of-the-Art Researches in New Technologies**

This book serves as leverage for those researching in the field of new technologies. It presents a compilation of researches in contemporary fields of technology, serving as a significant tool for experts, students and professionals. The book concentrates on numerous aspects of designing and manufacturing, examining composite technological products, and some aspects of the improvement and use of manufacturing and service automation. It also discusses some important subjects like production, development, tools, video methods, textiles, multimedia security, etc. This compilation of data offers information dealing with various facets of technology.



## Engineering & Technology

**Ed Diego**

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## Engineering & Technology

**Ed Diego**

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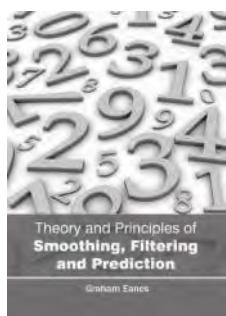
Book Size: 6"x9"

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## Technological Change Handbook

Technology is dynamic. Technological change, today, is central to economic growth. It is recognized as a significant driver of efficiency development and the appearance of new products from which customers benefit. It depends not only on the work of experts but also on a broader variety of financial and societal factors, inclusive of institutions such as academic property rights and commercial domination, the operation of markets, a range of governmental policies (science and technology policy, modernization policy, opposition policy, etc.) and other factors. Given that technology is openly taken up in the approaches and policies of administration, it is imperative that the nature and dynamics of technology be understood properly. This book intends to provide useful information regarding technological change to its readers.



## Engineering & Technology

**Graham Eanes**

ISBN: 978-1-63238-450-8

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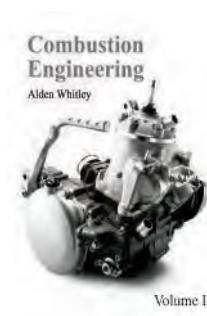
Book Size: 6"x9"

281pp./Colored

Hardback

## Technological Innovation Management

Technology is advancing at a rapid pace. It has been extensively established that technology is one of the forces motivating economic development. This book is a compilation of various researches. To start with, the chapters are written in developed nations and developing Asian nations. These chapters encompass a broad variety of businesses, inclusive of telecommunication, hygiene and medical, amusement, learning, manufacturing, and economics. The systematic approaches are multi-disciplinary, ranging from arithmetical, financial, logical, experiential and planned. Furthermore, this book also deals with both public and private organizations.



## Combustion Engineering

**Alden Whitley**

ISBN: 978-1-63238-084-5

\$154.99 US

Year 2015

Book Size: 8.5"x11"

212pp./Colored

Hardback

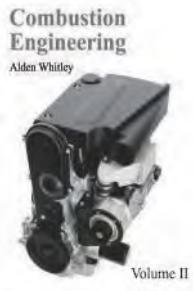
## Combustion Engineering: Volume I

This book is a research book presented in a way that all the chapters complement each other, to provide the reader with a closer look in the field of combustion. The topics covered are related to advanced studies of applications of combustion in highly advanced technologies; they also discuss control combustion and energy extraction from this technique. It is aimed that this book will be a beginning of a progress that will bring more insights of this phenomenon and help scientists gain more control over the experiments that will prove helpful in different areas.

## Theory and Principles of Smoothing, Filtering and Prediction

A descriptive account based on the theory as well as principles of smoothing, filtering and prediction techniques has been presented in this book. It aims to provide understanding of classical filtering, prediction techniques and smoothing techniques along with newly developed embellishments for enhancing performance in applications. It describes the domain in a vivid manner for the purpose of serving as a valuable guide for students as well as experts. It extensively discusses minimum-mean-square-error solution construction and asymptotic behavior, continuous-time and discrete-time minimum-variance filtering, minimum-variance filtering results for steady-state problems and continuous-time and discrete-time smoothing. It further elaborates on robust techniques that accommodate uncertainties within problem specifications, parameter estimation, applications of Riccati equations, etc. These aforementioned linear techniques have been applied to various nonlinear estimation problems towards the end of the book. Although they have a risk of assurance of optical performance, these mentioned linearizations can be employed in predictors, filters and smoothers. The book serves the objective of imparting practical knowledge amongst students interested in this field.

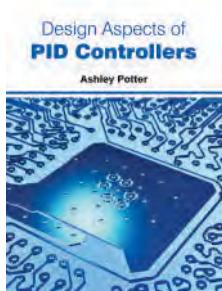
# Engineering & Technology



## Combustion Engineering

**Alden Whitley**

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## Control Engineering

**Ashley Potter**

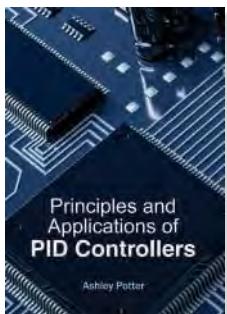
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\$125.00 US  
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Book Size: 6"x9"  
298pp./Colored  
Hardback

### Combustion Engineering: Volume II

This book is a research book presented in a way that all the chapters complement each other, to provide the reader with a closer look in the field of combustion. The topics covered are related to advanced studies of applications of combustion in highly advanced technologies; they also discuss control combustion and energy extraction from this technique. It is aimed that this book will be a beginning of a progress that will bring more insights of this phenomenon and help scientists gain more control over the experiments that will prove helpful in different areas.

### Design Aspects of PID Controllers

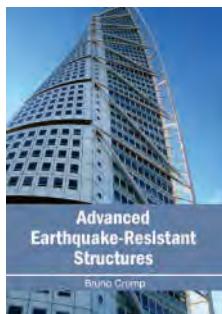
The aim of this book is to educate the readers regarding the various design aspects of PID controllers. The design of PID controllers were first introduced in the market in 1939 and is still considered as a challenging field that needs novel approaches for the formulation of solutions for PID tuning complications while capturing the effects of noise and process variations. The intensified complexity of novel applications in fields like microsystems technology, dc motors, automotive applications, industry procedures, pneumatic mechanisms, needs controllers that embody significant characteristics of the systems into their design like system's nonlinearities, disturbance rejection needs, model uncertainties, time delays and performance criteria among others. This book aims to present distinct PID controller designs for several contemporary technology applications in order to satisfy the requirements of a wide audience of researchers, professionals and scholars interested in studying about the progresses in PID controllers and associated topics.



## Control Engineering

**Ashley Potter**

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## Earthquake Engineering

**Bruno Crump**

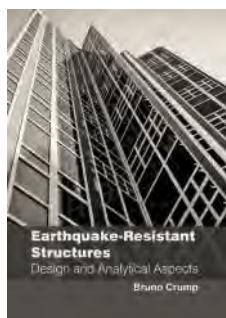
ISBN: 978-1-63238-014-2  
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### Principles and Applications of PID Controllers

The book provides valuable insight into the application, theory and practice of PID control technology. These tools of PID control are designed for researchers, students of process control, engineers and industry professionals. The book employs different applications so as to explain various functions such as process modeling, controller design and analysis with the help of conventional and heuristic schemes. It enriches the reader with information regarding important topics such as theoretical information of PID controllers, their design techniques, automated tunings, PID controllers of fractional order nature, and extended practical applications. This book is suited ideally for those seeking design methods and analysis of controllers. Though, it requires the reader to have pre-existing knowledge of transfer functions, regulation concepts, zeroes, poles and background. With advancements in this field, there has been a shift of preference to PDI by interdisciplinary researchers, real time process developers, control engineers, instrument technicians, etc.

### Advanced Earthquake-Resistant Structures

This book focuses on earthquake-resistant structures which can withstand major earthquakes. It comprises of research works contributed by various experts and researchers in the field of earthquake engineering. The book provides an overview of latest developments and advances related to earthquake-resistant structures. The book discusses seismic-resistance design of masonry and reinforcement of concrete structures and safety measurements, strengthening and rehabilitation of existing structures against earthquake loads. It also covers topics dedicated to seismic bearing capacity of shallow foundations, seismic behavior and retrofits of infilled frames, and also provides case studies related to seismic damage estimation in Mexico and vulnerability of buildings in western China. The book should be useful to graduate students, researchers and practicing structural engineers.



## Earthquake Engineering

**Bruno Crump**

ISBN: 978-1-63238-119-4

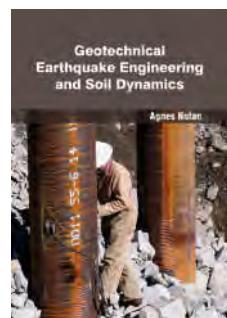
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318pp./Colored

Hardback



## Earthquake Engineering

**Agnes Nolan**

ISBN: 978-1-63238-214-6

\$160.00 US

Year 2015

Book Size: 6"x9"

436pp./Colored

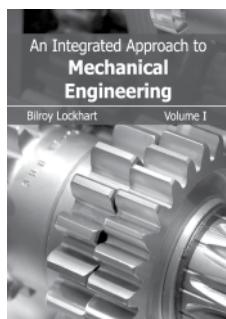
Hardback

## Earthquake-Resistant Structures: Design and Analytical Aspects

The book provides an overview of the latest developments and advances related to earthquake-resistant structures. It comprises of research works contributed by various experts and researchers in the field of earthquake engineering. The book discusses seismic-resistance design of masonry and reinforcement of concrete structures with safety measurements of strengthening and rehabilitation of existing structures against earthquake loads. It also covers topics dedicated to assessment and rehabilitation of jacket platforms, electromagnetic sensing mechanisms for health assessment of structures, post-earthquake examining of steel buildings in fire environment and response of underground pipes to blast loads. This book will be of help to graduate students, researchers and practicing structural engineers.

## Geotechnical Earthquake Engineering and Soil Dynamics

Various aspects of geotechnical earthquake engineering and soil dynamics are highlighted in this all-inclusive book. The current progress in the field of earthquake engineering has been discussed with primary focus on the seismic safety of dams and underground monuments, Bryan's effect, and the mitigation plans against landslide and fire whirlwind. The book discusses various interesting researches that have been contributed by researchers and experts from many countries. The researches presented in this book will be helpful for graduates, researchers and scientists working in these areas of structural and earthquake engineering. It will also be of significance to civil engineers working on building and reconstruction of structures such as dams, buildings, roads and others.



## Mechanical Engineering

**Bilroy Lockhart**

ISBN: 978-1-63238-046-3

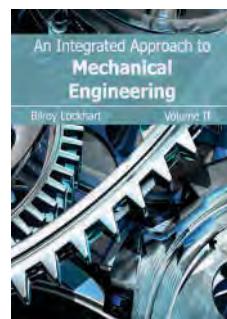
\$154.99 US

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218pp./Colored

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## Mechanical Engineering

**Bilroy Lockhart**

ISBN: 978-1-63238-047-0

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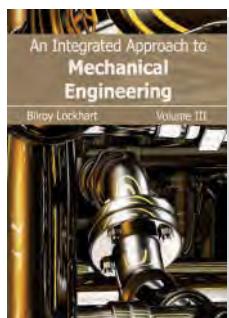
## An Integrated Approach to Mechanical Engineering: Volume I

This book is an advanced text for all those looking for a deeper insight into the theories, concepts and applications of mechanical engineering. The book comprises of innovative applications and their researches in varied spheres of science and technology. The purpose of this book is to explain and discuss the new theories and case studies concerning mechanical engineering and helping the readers increase their understanding and knowledge of the discipline.

## An Integrated Approach to Mechanical Engineering: Volume II

This book is an advanced text for all those looking for a deeper insight into the theories, concepts and applications of mechanical engineering. The book comprises of innovative applications and their researches in varied spheres of science and technology. The purpose of this book is to explain and discuss the new theories and case studies concerning mechanical engineering and helping the readers increase their understanding and knowledge of the discipline.

# Engineering & Technology



## Mechanical Engineering

### Bilroy Lockhart

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## Mechanical Engineering

### Eve Versuh

ISBN: 978-1-63238-254-2

\$125.00 US

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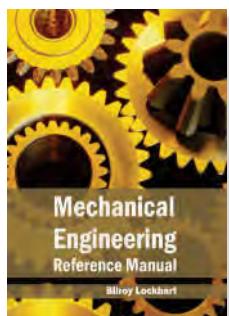
Hardback

## An Integrated Approach to Mechanical Engineering: Volume III

This book is an advanced text for all those looking for a deeper insight into the theories, concepts and applications of mechanical engineering. The book comprises of innovative applications and their researches in varied spheres of science and technology. The purpose of this book is to explain and discuss the new theories and case studies concerning mechanical engineering and helping the readers increase their understanding and knowledge of the discipline.

## Handbook of Microelectromechanical Systems

This is an all-inclusive book on microelectromechanical systems (MEMS). The developments of MEMS and devices have been influential in the demonstration of new devices and techniques, and even in the influx of new fields of research and developments such as BioMEMS, actuators, microfluidic devices, RF and optical MEMS. Therefore, the need is for MEMS book which incorporates the recent advances in the field. This book is prepared by the specialists in the field of MEMS. It consists of two major sections dedicated to RF and Optical MEMS, and MEMS based Actuators.



## Mechanical Engineering

### Bilroy Lockhart

ISBN: 978-1-63238-318-1

\$154.99 US

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Book Size: 8.5"x11"

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## Mechanical Engineering

### Eve Versuh

ISBN: 978-1-63238-322-8

\$154.99 US

Year 2015

Book Size: 6"x9"

367pp./Colored

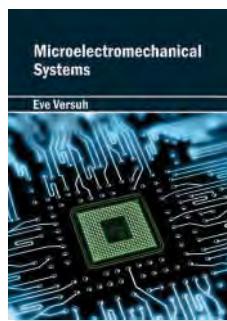
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## Mechanical Engineering Reference Manual

Mechanical engineering is one of the oldest and most useful branches of engineering. It has contributed infinitely towards the progress of civilization. This book attempts to understand the multiple upcoming concepts and theories that fall under mechanical engineering and how such advancements are useful for us. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Researchers and students in search of information to further their knowledge of this field will be assisted by this book.

## Micro Mechatronics: Science and Technology

This book presents a concise summary of the widespread aspects of various fundamentals and applications of micro mechatronics. The technique of nano mechatronics has widespread applications across multiple spheres like sensors, automobiles and machinery. Its present day utilization has extended to aerospace equipment, biomedical apparatus, water engineering and other such emerging fields. Essentially, the technology for miniaturization is critical for achieving high performance and low consumption of resources, giving rise to small space instrumentation. This book presents a summary on the research work carried out at Center of Excellence for Education and Research of Micro-Nano Mechatronics. The research work has created a means to create multiple applications of micro-nano mechatronics, on the basis of mechanical engineering, control systems engineering, and advanced medical engineering. Various topics in this book talk about advancements in research on nano measurement and control, designing and manufacture, and their applications in the field of biomedical equipment.



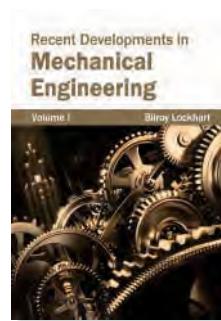
## Mechanical Engineering

### Eve Versuh

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\$110.00 US  
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201pp./Colored  
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## Microelectromechanical Systems

This book is prepared by the specialists in the field of microelectromechanical systems (MEMS). It consists of two major sections dedicated to BioMEMS Devices, and MEMS characterization and micromachining. The developments of MEMS and devices have been influential in the demonstration of new devices and techniques, and even in the influx of new fields of research and development such as BioMEMS, actuators, microfluidic devices, RF and optical MEMS. The experience signifies a need for MEMS book encompassing these materials along with the most important process steps in bulk micro-machining and modeling. This book commences with the evolving field of bioMEMS, discussing MEMS coil for retinal prostheses, DNA extraction by micro/bio-fluidics devices and acoustic biosensors.



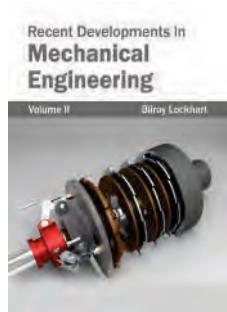
## Mechanical Engineering

### Bilroy Lockhart

ISBN: 978-1-63238-389-1  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
221pp./Colored  
Hardback

## Recent Developments in Mechanical Engineering: Volume I

Mechanical engineering, though an old discipline continues to be of interest for students and experts. This book is an attempt to incorporate all the recent trends in this area of research. Through this book, the reader will get an idea of the ongoing progress in the field of mechanical engineering and will comprehend the latest growth in this discipline.



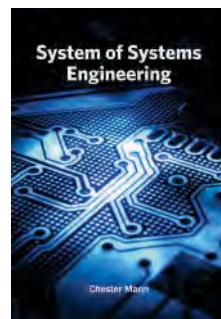
## Mechanical Engineering

### Bilroy Lockhart

ISBN: 978-1-63238-390-7  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
200pp./Colored  
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## Systems Engineering

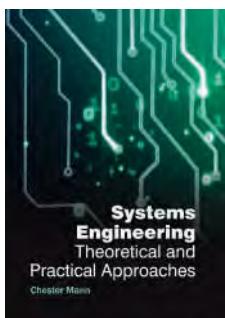
### Chester Mann

ISBN: 978-1-63238-432-4  
\$90.00 US  
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Hardback

## System of Systems Engineering

Various aspects related to engineering of system of systems have been highlighted in this comprehensive book. It presents and promotes analysis on present applications in the field of system of systems, emphasizing on the significance of the fact that new advancements and area of non-technical as well as technical applications are joining. The aim of this book is to develop an efficient platform for interaction among different types of theory developers and practitioners involved in utilizing the systems engineering approaches and system thinking at the scale of escalated complications and advancing computational answers to such systems.

# Engineering & Technology



## Systems Engineering

**Chester Mann**

ISBN: 978-1-63238-433-1

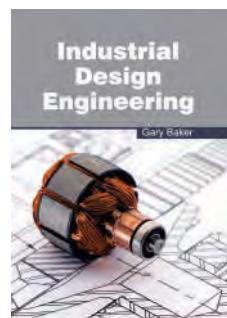
\$154.99 US

Year 2015

Book Size: 6"x9"

366pp./Colored

Hardback



## Industrial Design

**Gary Baker**

ISBN: 978-1-63238-293-1

\$110.00 US

Year 2015

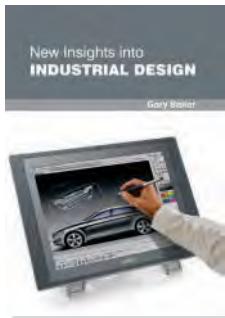
Book Size: 6"x9"

250pp./Colored

Hardback

## Systems Engineering: Theoretical and Practical Approaches

A descriptive account on systems engineering has been provided in this book, elucidating the theoretical as well as practical approaches. It is a compilation of research works contributed by researchers and developers from all over the world. A majority of these works elucidate methodologies for distinct systems engineering procedures while others consider matters of parallel knowledge areas and sub-areas which essentially contribute to the enhancement, maintenance and operation of systems. This book consists of data on spacecraft, aircraft and space systems development, post-analysis of information gathered during working of huge systems, etc. Important matters regarding "bottlenecks" of systems engineering, like security, complexity and authenticity of various types of systems, creation, operation and maintenance of services, system-human communication and management tasks done during system projects have been addressed in this book. It is very useful for those who are interested in the modern state of the systems engineering information field and for systems engineers engaged in various activities of the field. The aim of this book is to serve as a valuable source of reference for students and university lecturers. It can be directly used in systems engineering courses as descriptive materials.



## Industrial Design

**Gary Baker**

ISBN: 978-1-63238-347-1

\$110.00 US

Year 2015

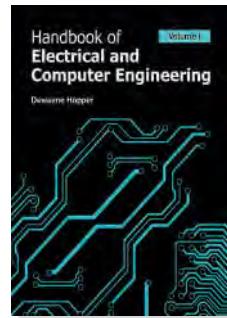
Book Size: 6"x9"

201pp./Colored

Hardback

## Industrial Design Engineering

The field of industrial design engineering is focused in this detailed book. A rapid paced altering world needs dynamic techniques and robust theories to allow designers to deal with novel product advancement landscape favorably and make a difference in an increasingly interconnected world. Designers continue stretching the limits of their discipline, and form new paths in interdisciplinary areas, consistently moving the frontiers of their practice further. This book advances on a few basic concepts, along with touching new areas of theory and practice in industrial design. It helps readers in stepping forward in their own application and in developing new design research that is appropriate and aligned with the present challenges of this fascinating field.



## Computer Engineering

**Dewayne Hopper**

ISBN: 978-1-63238-234-4

\$154.99 US

Year 2015

Book Size: 8.5"x11"

212pp./Colored

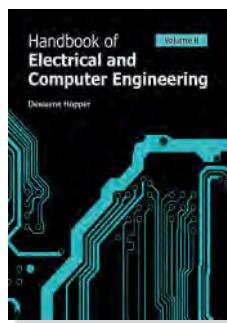
Hardback

## Handbook of Electrical and Computer Engineering: Volume I

This book looks at the fields of computer and electrical engineering through the perspective of the new research being put forward. Advancements in technology and research methodologies are delved into and discussed. There are many new opportunities that are being created through such researches and the book also glances at them. Researchers and students in this field of study will be able to use the data given in this book to further their work.

## New Insights into Industrial Design

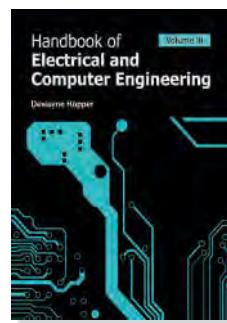
This is an insightful book that describes novel frontiers in the field of industrial design. A new class of modern designers is fast emerging on the scene. These non-conventional industrial designers work across disciplines, analyze human mindsets, trade techniques and new advancements to bridge the gap between customer requirements and technical developments of tomorrow. This book presents potential designer methods of the latest industrial design, whose practitioners try hard to make simple and yet compound products for the future. The new frontiers of industrial design have been uncovered in illustrating the use of latest techniques in design and the development of culturally inspired design. The varied points of view presented by the writers of this book make sure that the inspiring data will help readers in leaping forward in their own research and tackle the emerging obstacles in this field.



## Computer Engineering

**Dewayne Hopper**

ISBN: 978-1-63238-235-1  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
211pp./Colored  
Hardback



## Computer Engineering

**Dewayne Hopper**

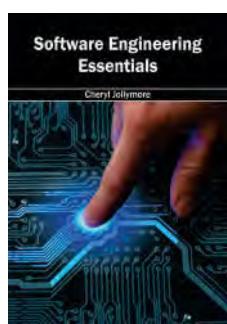
ISBN: 978-1-63238-236-8  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
212pp./Colored  
Hardback

## Handbook of Electrical and Computer Engineering: Volume II

This book looks at the fields of computer and electrical engineering through the perspective of the new research being put forward. Advancements in technology and research methodologies are delved into and discussed. There are many new opportunities that are being created through such researches and the book also glances at them. Researchers and students in this field of study will be able to use the data given in this book to further their work.

## Handbook of Electrical and Computer Engineering: Volume III

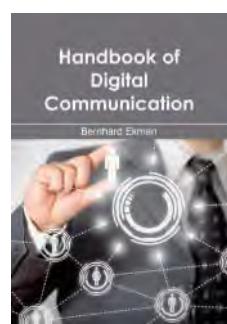
This book looks at the fields of computer and electrical engineering through the perspective of the new research being put forward. Advancements in technology and research methodologies are delved into and discussed. There are many new opportunities that are being created through such researches and the book also glances at them. Researchers and students in this field of study will be able to use the data given in this book to further their work.



## Software Engineering

**Cheryl Jollymore**

ISBN: 978-1-63238-421-8  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
207pp./Colored  
Hardback



## Communications & Security

**Bernhard Ekman**

ISBN: 978-1-63238-233-7  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
190pp./Colored  
Hardback

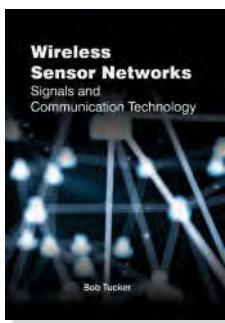
## Software Engineering Essentials

Topics related to the rise of software engineering and this field's distinctions from other similar fields like computer science are discussed at length here. The upcoming concepts in this field are also looked at and given an in-depth answer to. This book creates a timeline of software engineering and attempts to collate existing and newer research and data that explain its theories. Students of software engineering and those looking at the scope of this field will find this book helpful.

## Handbook of Digital Communication

This book provides state-of-the-art information regarding digital communications. Everyone should have a digital strategy since all marketing is digital these days. Everything is going mobile. The current talk in the digital community is that "the world has never been more social" and digital communication is considered as the key facilitator of this fact. Digital information tends to be much more defiant to disseminate and decipher errors than information symbolized in an analog medium. This accounts for the clarity of digitally-encoded compact audio disks, telephone connections and a lot of enthusiasm for digital communications technology in the engineering community. With a modern and descriptive presentation approach regarding the field of digital communication, this book explores modernized digital communication methodologies. The aim of this book is to update and enhance the knowledge of the reader regarding the dynamically transforming field of digital communication.

# Engineering & Technology



## Wireless Networking

### Bob Tucker

ISBN: 978-1-63238-464-5

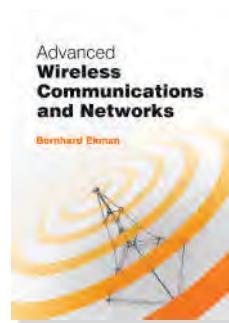
\$145.00 US

Year 2015

Book Size: 6"x9"

320pp./Colored

Hardback



## Wireless Technology

### Bernhard Ekman

ISBN: 978-1-63238-026-5

\$125.00 US

Year 2015

Book Size: 6"x9"

305pp./Colored

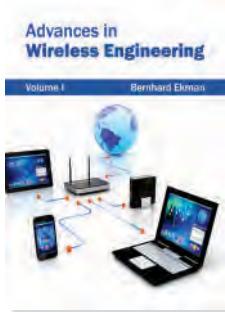
Hardback

## Wireless Sensor Networks: Signals and Communication Technology

This book is a well-structured analysis of wireless sensor networks. It explores the most recent developments in wireless networks technology. It describes the essential concepts and realistic aspects of wireless sensor networks and addresses challenges faced in their design, examination and usage. This book will serve as a complete reference for experts and even for students who seek to learn about the latest advancements in wireless sensor networks.

## Advanced Wireless Communications and Networks

This book is a compilation of recent and most popular innovations from the lowest layers to the upper layers of wireless communication networks and consists of "real-time" research developments. The information in this book has been systematically organized in order to make it easily accessible to the readers of all levels. It also preserves the balance between the recent research results and their theoretical support. A huge variety of new techniques in this field are investigated in this book. The authors attempt to present these topics in detail under the following sections wireless communication performance analysis - tools and methods, next generation communication technologies, biological effects of wireless communication, and wireless sensor networks and MANETS. Intelligent and reader-friendly elucidations are provided in this book to serve the readers of all levels, ranging from knowledgeable and practicing communication engineers to beginners or professional researchers.



## Wireless Technology

### Bernhard Ekman

ISBN: 978-1-63238-039-5

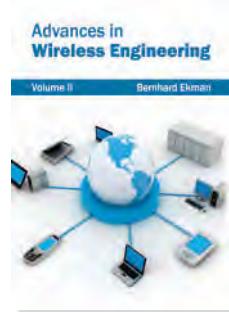
\$154.99 US

Year 2015

Book Size: 8.5"x11"

224pp./Colored

Hardback



## Wireless Technology

### Bernhard Ekman

ISBN: 978-1-63238-040-1

\$154.99 US

Year 2015

Book Size: 8.5"x11"

218pp./Colored

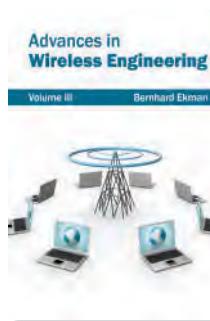
Hardback

## Advances in Wireless Engineering: Volume I

Wireless technology is the urban face of technology. Technology in itself is dynamic and constant knowledge is required to stay updated about the innovations across the globe. This book is an essential guide for all those who are interested in wireless engineering and technology. The researches included in this book will definitely provide incredible insights to readers. A number of upcoming concepts, models and applications have also been included.

## Advances in Wireless Engineering: Volume II

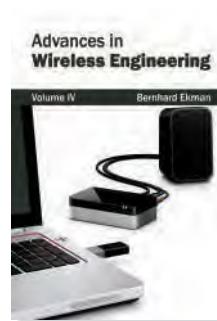
Wireless technology is the urban face of technology. Technology in itself is dynamic and constant knowledge is required to stay updated about the innovations across the globe. This book is an essential guide for all those who are interested in wireless engineering and technology. The researches included in this book will definitely provide incredible insights to readers. A number of upcoming concepts, models and applications have also been included.



## Wireless Technology

**Bernhard Ekman**

ISBN: 978-1-63238-041-8  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
211pp./Colored  
Hardback



## Wireless Technology

**Bernhard Ekman**

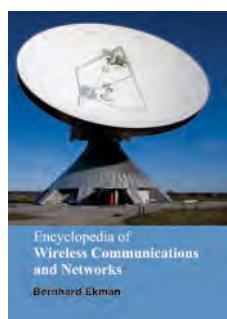
ISBN: 978-1-63238-042-5  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
208pp./Colored  
Hardback

## Advances in Wireless Engineering: Volume III

Wireless technology is the urban face of technology. Technology in itself is dynamic and constant knowledge is required to stay updated about the innovations across the globe. This book is an essential guide for all those who are interested in wireless engineering and technology. The researches included in this book will definitely provide incredible insights to readers. A number of upcoming concepts, models and applications have also been included.

## Advances in Wireless Engineering: Volume IV

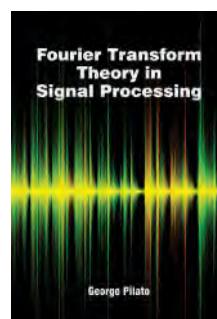
Wireless technology is the urban face of technology. Technology in itself is dynamic and constant knowledge is required to stay updated about the innovations across the globe. This book is an essential guide for all those who are interested in wireless engineering and technology. The researches included in this book will definitely provide incredible insights to readers. A number of upcoming concepts, models and applications have also been included.



## Wireless Technology

**Bernhard Ekman**

ISBN: 978-1-63238-177-4  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
313pp./Colored  
Hardback



## Signal Processing

**George Pilato**

ISBN: 978-1-63238-203-0  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
366pp./Colored  
Hardback

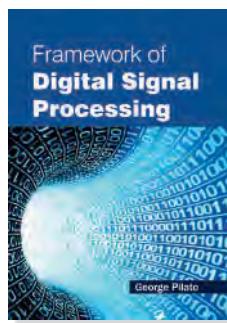
## Encyclopedia of Wireless Communications and Networks

The book highlights recent advancements starting from the lowest layers to the upper layers of wireless communication networks and consists of "real-time" research development on the related issues. The information in this book has been systematically organized in order to make it easily accessible to the readers of all levels. It also preserves the balance between the recent research results and their theoretical support. A huge variety of new techniques in this field are investigated in this book. The authors attempt to present these topics in detail by discussing wireless communication antennas, hardware and channel estimation and capacity. Intelligent and reader-friendly elucidations are provided in this book to serve the readers of all levels, ranging from knowledgeable and practicing communication engineers to beginners or professional researchers.

## Fourier Transform Theory in Signal Processing

This book is a detailed and applicable medium designed for the purpose of helping students and researchers to understand the Fourier Transform theory in signal processing. Fourier Transform (FT) is a field of processing which has shown significant growth in the last few decades. Every book on signal processing discusses its various uses. This book also stresses on Fourier Transform theory and its utilization in signal processing methods. The book contains topics like DFT, FFT, OFDM, evaluation methods and image processing programs. Through this book, we aim at providing an overview on this phenomenon along with references and incentives to push students forward for in-depth research in this field and also, present methods for practical usage. This book mainly focuses on electrical engineers, communication engineers, signal processing engineers and mathematicians as it provides practical based overview on signal processing.

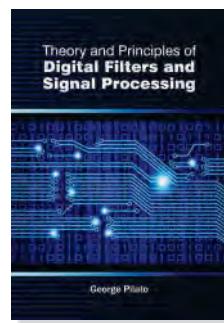
# Engineering & Technology



## Signal Processing

### George Pilato

ISBN: 978-1-63238-205-4  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
322pp./Colored  
Hardback



## Signal Processing

### George Pilato

ISBN: 978-1-63238-449-2  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
313pp./Colored  
Hardback

## Framework of Digital Signal Processing

The framework of digital signal processing is explained in this book with the help of descriptive information. Digital signal processing (DSP) comprises of a broad variety of functions in which the execution of high-performance systems to meet severe requirements and performance constraints is fast becoming a topic of interest, both in the practical and educational contexts. Assumed to be accessible to a significant number of people, the aim of this book is to provide students, researchers, engineers and the industrial society with a reference to the most recent developments in rising issues in the design and execution of DSP systems for purpose-oriented circuits and programmable tools. The book deals with various topics including real-time audio functions, optical signal processing, image and video processing and superior architectures and executions. It will allow students and experts to deal with the significant gap in information in the changeover from algorithm requirement to the design of architectures for VLSI achievements.

## Theory and Principles of Digital Filters and Signal Processing

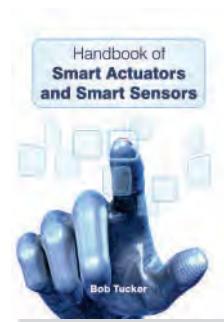
The theories and principles of digital filters and signal processing are explained in this extensive book. Digital filters along with signal processing, are being engaged in new technologies and information systems, and are implemented in diverse areas and applications. They are used with no costs and they can be adjusted for various cases fittingly with great flexibility and dependability. This book presents latest advancements in digital filters and signal process techniques covering different cases studies. They present the key fundamental nature of the subject, with the basic approaches to the most recent mathematical models that are being engaged worldwide.



## Artificial Intelligence

### Dmitry Hofland

ISBN: 978-1-63238-278-8  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
242pp./Colored  
Hardback



## Artificial Intelligence

### Bob Tucker

ISBN: 978-1-63238-279-5  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
356pp./Colored  
Hardback

## Handbook of Robotic Manipulators

This book provides extensive information regarding the rapidly growing field of robotics. Robotics form an essential part of modern engineering and is associated with various other fields namely mathematics, mechanism design, computer and electric & electronics. In the past few decades, interest in robotics has notably increased which has led to the advancement of theoretical research and products in this field. This book includes contributions of prominent researchers and engineers dealing with robotics and its related aspects. It extensively covers topics of serial manipulators such as kinematics & dynamics and control modeling.

## Handbook of Smart Actuators and Smart Sensors

Smart actuators and sensors are used in diverse electric applications. This book is a comprehensive summary of recent technical researches in the field of smart actuators and sensors. It is a compilation of researches accomplished by experts from around the globe. The book will allow the reader to appreciate diverse points of view, engineering techniques and tools that must be considered together when designing and realizing smart actuation and sensing systems. It covers significant issues regarding SMA-based systems and smart polymers.



## Artificial Intelligence

**Dmitry Hofland**

ISBN: 978-1-63238-402-7

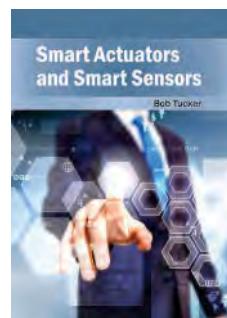
\$110.00 US

Year 2015

Book Size: 6"x9"

239pp./Colored

Hardback



## Artificial Intelligence

**Bob Tucker**

ISBN: 978-1-63238-419-5

\$154.99 US

Year 2015

Book Size: 6"x9"

384pp./Colored

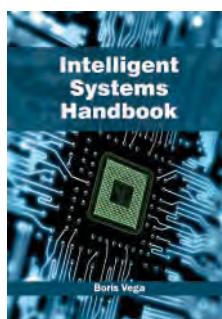
Hardback

## Robotic Manipulators

This book includes contributions of prominent researchers and engineers dealing with robotics and its related aspects. In the past few decades, interest in robotics has notably increased which has led to the advancement of theoretical research and products in this field. Robotics form an essential part of modern engineering and is associated with various other fields namely mathematics, mechanism design, computer and electric & electronics. The book extensively covers optimization modeling.

## Smart Actuators and Smart Sensors

This book comprises recent researches and advances in the field of smart actuators and sensors. The objective of this book is to sum up all the technical researches regarding smart actuators and sensors. Researches accomplished by experts around the globe are included in this book. The book will allow the reader to appreciate diverse points of view, engineering techniques and tools that must be considered together when designing and realizing smart actuation and sensing systems. It discusses important topics regarding smart fluids, smart transducer applications and piezo-based systems.



## Intelligent Systems

**Boris Vega**

ISBN: 978-1-63238-304-4

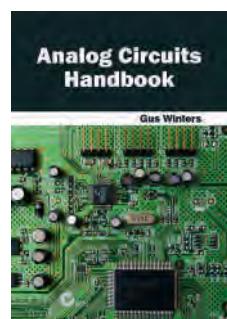
\$154.99 US

Year 2015

Book Size: 6"x9"

378pp./Colored

Hardback



## Analog Circuits

**Gus Winters**

ISBN: 978-1-63238-051-7

\$90.00 US

Year 2015

Book Size: 6"x9"

128pp./Colored

Hardback

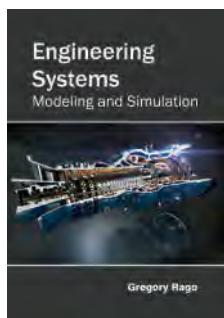
## Intelligent Systems Handbook

The field of intelligent systems is growing significantly. This book consists of in-depth elucidations of intelligent systems with wide-spectrum applications, like social and personal biosafety or use of intelligent sensory micro-nanosystems like e-eye, e-tongue and e-nose. Also, efficient information procurement, enhanced knowledge transfer and knowledge management in any media, and modeling its information content with the help of hyper-and meta-heuristics and semantic reasoning will benefit from the systems that have been described in this all-inclusive book. These systems can also be employed in the process of education and in developing the intelligent distributed eLearning architecture, and also in several technical fields, like industrial design, manufacturing and utilization, for example, in precision agriculture, drilling operations, electric power distribution setups, cartography, intelligent building management systems, etc. Moreover, decision-making with the help of fuzzy logic models, computational identification of comprehension uncertainty and the integrated synthesis of aims and means of intelligent behavior biosystems, as well as diagnostic and human support in the healthcare environment have also been made easier.

## Analog Circuits Handbook

This book discusses various aspects of analog circuits and its applications which will be beneficial for readers interested in this subject. Analog design explores innovative circuit topologies, architectures and CAD skills so as to conquer the design troubles emerging from new functions and new production technologies. In this book, a new structural design for a SAR ADC is suggested, so as to get rid of the procedure mismatches and reduce the errors. An analog circuit is one that uses nonstop time voltages and currents. This book is a collection of theories and researches based on analog circuits. It even explains radio frequency IC design, memetic method for passive filters design, among others.

# Engineering & Technology



## Numerical Analysis

**Gregory Rago**

ISBN: 978-1-63238-179-8

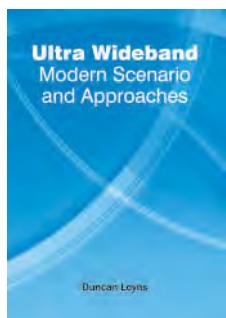
\$145.00 US

Year 2015

Book Size: 6"x9"

310pp./Colored

Hardback



## Data Transmission

**Duncan Loys**

ISBN: 978-1-63238-458-4

\$154.99 US

Year 2015

Book Size: 6"x9"

370pp./Colored

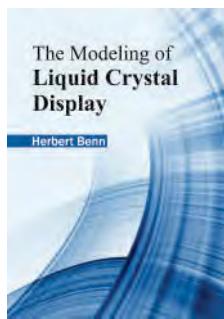
Hardback

## Engineering Systems: Modeling and Simulation

This book presents an open platform to establish and share knowledge developed by engineers, scientists, and scholars from across the globe regarding numerous different applications of the simulation and modeling in the design procedure of products in several engineering fields. It discusses some of the latest simulation and modeling strategies, as well as certain extremely precise and smart software in treating complicated systems. The basic idea of the book is to manipulate the simplifying assumptions in a way that decreases the complexity of the model, but without changing the accuracy of the results. The book will serve as a great source of reference for a wide spectrum of readers.

## Ultra Wideband: Modern Scenario and Approaches

A detailed account based on the topic of Ultra Wideband (UWB) has been presented in this book, elucidating the modern scenario and approaches regarding this topic. Ultra wideband has developed and risen as a technology, and numerous people are now familiar with the potential of this intriguing technology. The present status of UWB field is transforming at a rapid pace with introduction of novel ideas and methods with numerous issues related to the optimization of these systems. In UWB system layout, the UWB antenna and UWB RF (radio-frequency) transceiver classify as the most essential constituents. Lately, significant amount of research has been dedicated to the optimization of the UWB RF transceiver and antenna for achieving high data transmission rates and low power utilization. The aim of this book is to elucidate contemporary and rising trends in the research and development of UWB systems as well as their future endeavors.



## Display Technology

**Herbert Benn**

ISBN: 978-1-63238-439-3

\$110.00 US

Year 2015

Book Size: 6"x9"

221pp./Colored

Hardback



## Fiber Optics

**Bob Tucker**

ISBN: 978-1-63238-194-1

\$110.00 US

Year 2015

Book Size: 6"x9"

236pp./Colored

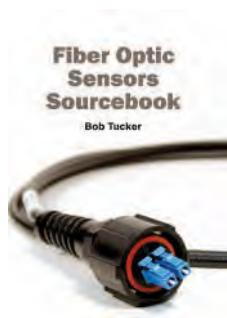
Hardback

## Fiber Optic Sensors

All recent discoveries and explorations related to fiber optical sensors technology in the recent past have been thoroughly discussed in this book. This book provides a detailed study about latest developments of the subject, essential propositions of varied sensor types, their role in structural health monitoring and evolution of varied physical, chemical and biological criteria. By presenting various advanced styles of sensing and systems, and by depicting latest evolvements in fiber Bragg-grating, reflectometry and interfometry based sensors; the book highlights the improvement and growth of fiber optics sensors. This book successfully unites academicians and practitioners in an overall observation of the subject. This book can play a pivotal role by providing the required information to scientists working and teaching, 'optical fiber sensor technology' and it can also be used by industrialists who need to update themselves with modern and recent progresses in the field.

## The Modeling of Liquid Crystal Display

The modeling of liquid crystal display has been explained in this descriptive book. Volume inorganic electro-optical models and equipment are being substituted by a part of science and technology which deals with the new display technology and organic materials. A significant way to succeed in this field is by studying the beneficial photorefractive materials, conducting coatings, alignment layers and electric plans that enable the control of liquid crystal mesophase with positive utility. This book incorporates leading and amended inputs and covers logical speculative patterns for optoelectronics and non-linear perceptions. The book also includes experiential programs, new strategies, latest outlook and description which go for laser, semi-conductors device technology, medicine, bio-technology, etc. The knowledge, thoughts, approach herein will be useful for the readers to search an accountable answer for fundamental study and practice.



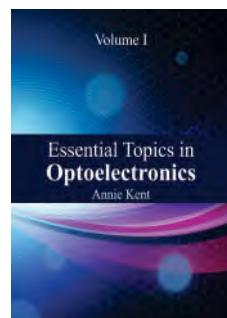
## Fiber Optics

**Bob Tucker**

ISBN: 978-1-63238-195-8  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
306pp./Colored  
Hardback

## Fiber Optic Sensors Sourcebook

This book provides a detailed study about latest developments of fiber optic sensors. The book provides essential propositions of varied sensor types, their role in structural health monitoring and evolution of varied physical, chemical and biological criteria. By presenting various advanced styles of sensing and systems, and by depicting latest evolvements in fiber Bragg grating, reflectometry and interfometry based sensors; the book highlights the improvement and growth of fiber optics sensors by arc discharges, fiber optic displacement sensors and their applications. This book successfully unites academicians and practitioners in an overall observation of the subject. This book provides the required information to scientists working and teaching, 'optical fiber sensor technology' and it can also be used by industrialists who need to update themselves with modern and recent progresses in the field.



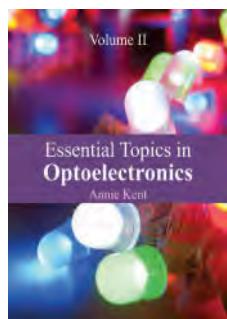
## Optoelectronics

**Annie Kent**

ISBN: 978-1-63238-190-3  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
217pp./Colored  
Hardback

## Essential Topics in Optoelectronics: Volume I

This book on optoelectronics is a collection of chapters presented in a manner that it illustrates significant conceptual topics of this dynamic field of study. The chapters have been put together by an international group of authors in such a manner that together, they provide highly informative knowledge on this subject. A few chapters in this book are descriptive notes of different applications used in optoelectronics. Different phenomena related to Optoelectronics have also been discussed in this book.



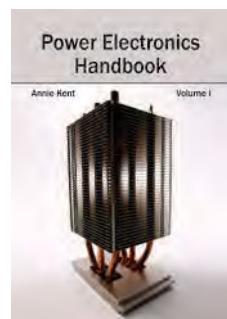
## Optoelectronics

**Annie Kent**

ISBN: 978-1-63238-191-0  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
210pp./Colored  
Hardback

## Essential Topics in Optoelectronics: Volume II

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## Power Electronics

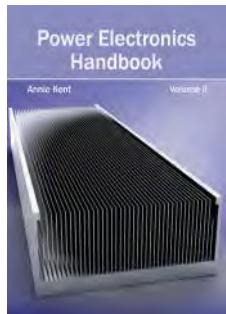
**Annie Kent**

ISBN: 978-1-63238-367-9  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
216pp./Colored  
Hardback

## Power Electronics Handbook: Volume I

This book is aimed at providing different approaches to power electronics. This book includes discussions on topics like transmission and processing of signals and data, various aspects of all types of conversions which includes AC power and DC power. This book is aimed for researchers and engineers, which is why technical aspects and applications of various technical advances have been thoroughly presented in this book. A few extremely scientific power electronic systems have also been included as case studies in this book.

# Engineering & Technology



## Power Electronics

### Annie Kent

ISBN: 978-1-63238-368-6

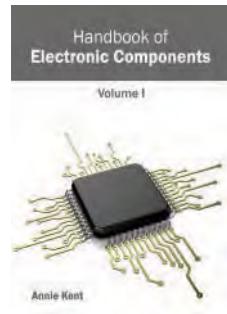
\$154.99 US

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Book Size: 8.5"x11"

207pp./Colored

Hardback



## Electrical Components

### Annie Kent

ISBN: 978-1-63238-239-9

\$154.99 US

Year 2015

Book Size: 8.5"x11"

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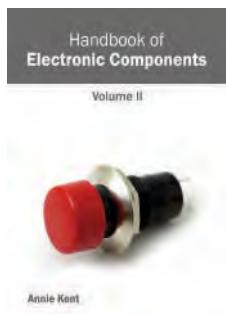
Hardback

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## Handbook of Electronic Components: Volume I

This book carries detailed researches and texts on electronic components; both active and passive. A first-hand comprehension of revolutionizing theories and applications of such electronic components which are set to transform the field of science is presented in this book. It aims to provide its readers with the latest discoveries and concepts of the category and help them conceptualize and understand the subject more proficiently.



## Electrical Components

### Annie Kent

ISBN: 978-1-63238-240-5

\$154.99 US

Year 2015

Book Size: 8.5"x11"

221pp./Colored

Hardback



## Electromagnetism

### Elliott Flanagan

ISBN: 978-1-63238-124-8

\$95.00 US

Year 2015

Book Size: 6"x9"

185pp./Colored

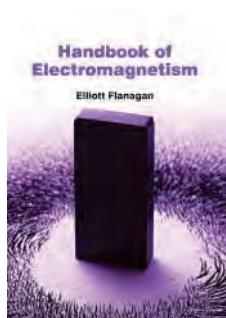
Hardback

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## Electromotive Force: Principles and Measurements

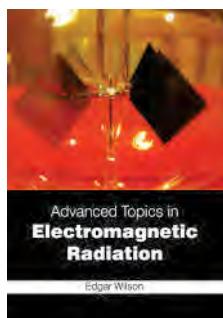
Electromotive force (EMF) is described as a measurement of the energy that causes the current to flow through a circuit. This book presents distinct aspects of Electromotive Force Theory and its operations in engineering science and industry. The topics elucidated in the book are: Quantum Theory of Thermoelectric Power, EMF in solar energy and photocatalysis, Electromotive Force Measurements and Thermodynamic Modelling of electrolyte in mixed solvents, utilization of Electromotive Force Measurement in Nuclear Systems Using Lead Alloys, Electromotive Force Measurements in High-Temperature Systems, Resonance Analysis of Induced EMF on Coils and many more.



## Electromagnetism

**Elliott Flanagan**

ISBN: 978-1-63238-238-2  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
302pp./Colored  
Hardback



## Electromagnetic Radiation

**Edgar Wilson**

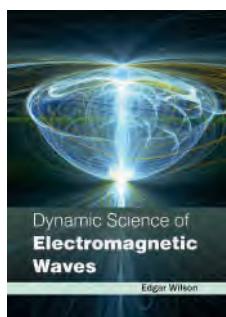
ISBN: 978-1-63238-023-4  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
300pp./Colored  
Hardback

## Handbook of Electromagnetism

The aim of this book is to introduce the readers with the science of electromagnetism. Among the various branches of classical physics, electromagnetism is the domain which experiences the most significant advancements, both in its practical and basic aspects. The quantum corrections which produce non-linear terms of the standard Maxwell equations, their particular form in curved spaces, whose predictions can be encountered with the cosmic polarization rotation, or the topological model of electromagnetism, constructed with electromagnetic knots, are important examples of current theoretical advancements. The book consists of in-depth information which makes it very easy for the readers to comprehend the concepts related to the science of electromagnetism. It also elucidates several industrial applications of electromagnetism, emphasizing on its significance. Therefore, this book serves as a valuable and interesting source of information for various specialists in this field.

## Advanced Topics in Electromagnetic Radiation

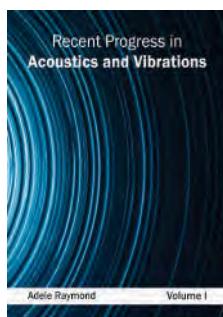
Electromagnetic radiation, a basic phenomenon of electromagnetism, has been described in this comprehensive book. Modern applications of electromagnetic radiation are an emerging technological practice. Experts have comprehensively dealt with two aspects of electromagnetic radiation, theory and application; together in the same book. It discusses numerous topics of practical relevance, including medical treatment, telecommunication systems and radiation effects. The book provides vivid description of the subjects along with contemporary examples which make this book an indispensable reference book for electromagnetic radiation applications.



## Electromagnetic Radiation

**Edgar Wilson**

ISBN: 978-1-63238-118-7  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
353pp./Colored  
Hardback



## Acoustics

**Adele Raymond**

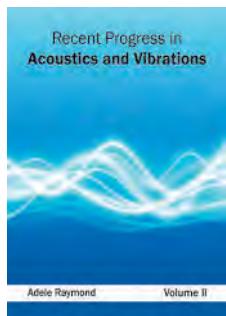
ISBN: 978-1-63238-394-5  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
223pp./Colored  
Hardback

## Dynamic Science of Electromagnetic Waves

The dynamic science of electromagnetic waves has been described in this comprehensive book. It consists of a vast range of topics connected to logical as well as mathematical solutions of troubles linked to scattering, propagation, radiation, and emission in various mediums. Designs of several devices and their measurement aspects have been introduced. Subjects linked to microwave section, Terahertz, and quasi-optical sections have been discussed. Bi-isotropic metamaterial in optical region has also been discussed thoroughly. Appealing mathematical techniques in frequency domain and time domain for scattering, radiation, forward, as well as, reverse problems and microwave imaging have been briefed. This book will benefit engineers from diverse backgrounds interested in antennas, microwave engineering, and numerical methods.

## Recent Progress in Acoustics and Vibrations: Volume I

Acoustics and vibrations have fundamental challenges which can result in multiple and intense applications. The purpose of this book is to facilitate the learning and experimenting process of researchers and practitioners by providing useful and updated information, discoveries, theories, practices and researches in the fields of acoustics and vibrations. This book will serve its readers with cutting-edge concepts and experimental methods which will help them device advances in science.



## Acoustics

**Adele Raymond**

ISBN: 978-1-63238-395-2

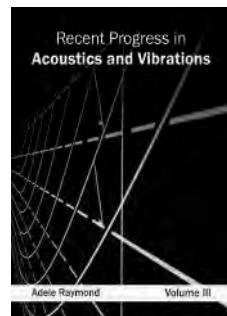
\$154.99 US

Year 2015

Book Size: 8.5"x11"

185pp./Colored

Hardback



## Acoustics

**Adele Raymond**

ISBN: 978-1-63238-396-9

\$154.99 US

Year 2015

Book Size: 8.5"x11"

193pp./Colored

Hardback

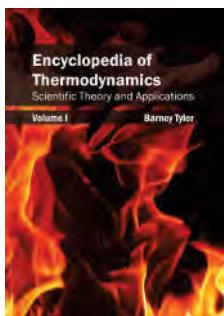
## Recent Progress in Acoustics and Vibrations: Volume II

Acoustics and vibrations have fundamental challenges which can result in multiple and intense applications. The purpose of this book is to facilitate the learning and experimenting process of researchers and practitioners by providing useful and updated information, discoveries, theories, practices and researches in the fields of acoustics and vibrations. This book will serve its readers with cutting-edge concepts and experimental methods which will help them device advances in science.

## Recent Progress in Acoustics and Vibrations: Volume III

Acoustics and vibrations have fundamental challenges which can result in multiple and intense applications. The purpose of this book is to facilitate the learning and experimenting process of researchers and practitioners by providing useful and updated information, discoveries, theories, practices and researches in the fields of acoustics and vibrations. This book will serve its readers with cutting-edge concepts and experimental methods which will help them device advances in science.

## Thermodynamics



Barney Tyler

ISBN: 978-1-63238-172-9

\$110.00 US

Year 2015

Book Size: 6"x9"

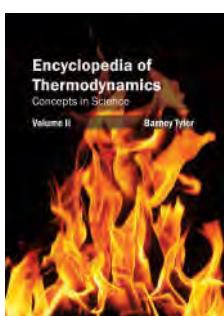
226pp./Colored

Hardback

### Encyclopedia of Thermodynamics: Scientific Theory and Applications

Volume I

The book contains a collection of numerous high level contributions regarding thermodynamics. It begins with the fundamentals and extends up to several applications in distinct scientific fields. The book covers topics like Classical Thermodynamics, Statistical Thermodynamics and Property Prediction in Thermodynamics. The book aims at providing the readers with in-depth knowledge and serves as a state of the art reference book in the field of thermodynamics.



Barney Tyler

ISBN: 978-1-63238-173-6

\$145.00 US

Year 2015

Book Size: 6"x9"

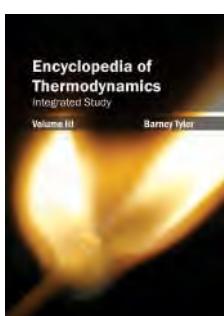
340pp./Colored

Hardback

### Encyclopedia of Thermodynamics: Concepts in Science

Volume II

The book contains a collection of numerous high level contributions regarding thermodynamics. It begins with the fundamentals and extends up to several applications in distinct scientific fields. The book covers topics like Material and Products, Thermodynamics in Different Areas and Non-Equilibrium. The book aims at providing the readers with in-depth knowledge and serves as a state of the art reference book in the field of thermodynamics.



Barney Tyler

ISBN: 978-1-63238-174-3

\$145.00 US

Year 2015

Book Size: 6"x9"

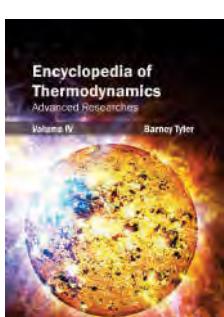
330pp./Colored

Hardback

### Encyclopedia of Thermodynamics: Integrated Study

Volume III

Advanced researches as well as an integrated analysis of the science of thermodynamics are provided in this book. Thermodynamics is one of the most interesting parts of physical chemistry which has significantly contributed to modern science. Being focused on a broad spectrum of applications of thermodynamics, this book accumulates a series of contributions made by veteran scientists and researchers from across the planet. Significant topics such as atmospheric thermodynamics, thermodynamics of ligand-protein interactions, interfaces, nanoparticle formation in laser ablation and free-piston linear alternator are covered. This book will appeal to students engaged in post-graduate courses. It will also serve as a good source of reference for those researchers who are interested in thermodynamics.



Barney Tyler

ISBN: 978-1-63238-175-0

\$154.99 US

Year 2015

Book Size: 6"x9"

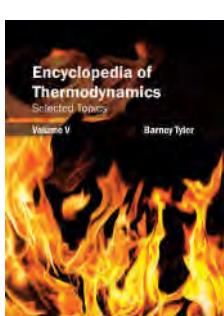
366pp./Colored

Hardback

### Encyclopedia of Thermodynamics: Advanced Researches

Volume IV

An integrated analysis of the advanced researches in science of thermodynamics is provided in this book. Thermodynamics is one of the most interesting parts of physical chemistry which has significantly contributed to the modern science. Being focused on a broad spectrum of applications of thermodynamics, this book accumulates a series of contributions made by veteran scientists and researchers from across the planet. Significant topics covered are thermodynamic aspects of CVD crystallization, role of thermodynamics in quantum chemistry calculations, Ab Initio thermodynamics. The book will appeal to students engaged in post-graduate courses and also serve as a good source of reference for researchers interested in thermodynamics.



Barney Tyler

ISBN: 978-1-63238-176-7

\$125.00 US

Year 2015

Book Size: 6"x9"

257pp./Colored

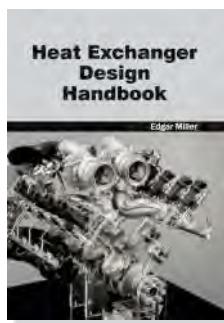
Hardback

### Encyclopedia of Thermodynamics: Selected Topics

Volume V

An integrated analysis of the science of thermodynamics is provided in this book. Thermodynamics is one of the most interesting parts of physical chemistry which has significantly contributed to the modern science. Being focused on a broad spectrum of applications of thermodynamics, this book accumulates a series of contributions made by veteran scientists and researchers from across the planet. This book evaluates selected topics in thermodynamics with regard to reaction rates, Planck's law, statistical, chlorination, and theory of simple liquids. The book will appeal to students engaged in post-graduate courses. It will also serve as a good source of reference for those researchers who are interested in thermodynamics.

# Engineering & Technology



## Heat Transfer

### Edgar Miller

ISBN: 978-1-63238-285-6

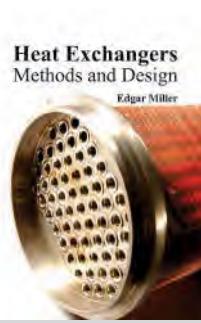
\$160.00 US

Year 2015

Book Size: 6"x9"

406pp./Colored

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## Heat Transfer

### Edgar Miller

ISBN: 978-1-63238-286-3

\$95.00 US

Year 2015

Book Size: 6"x9"

203pp./Colored

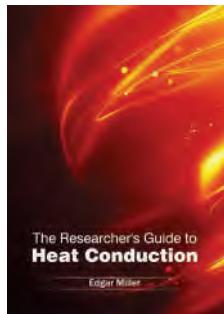
Hardback

## Heat Exchanger Design Handbook

The contents of this book offer extensive information on specific cases of heat exchangers. The selection was directed by seeking future prospects of applied research and industry, particularly aiming on the effective use and conversion energy in shifting environment. Besides the questions of thermodynamic basics, the contributions of this book are thematically grouped which presents various critical issues grouped under three sections, namely general aspects, micro-channels and compact heat exchangers, and plate heat exchangers. The book is not necessarily focused to be a fundamental source of the knowledge in the area it covers, but rather serves as a mentor while practising expansive solutions of particular technical issues which are faced by engineers and technicians occupied in research and development in the subjects of heat transfer and heat exchangers.

## Heat Exchangers: Methods and Design

This book offers valuable information on specific cases of heat exchangers. The selection was directed by seeking future prospects of applied research and industry, particularly aiming on the effective use and conversion energy in shifting environment. Beside the questions of thermodynamic basics, the book also presents various critical topics, such as operations, conceptions, design, fouling and cleaning of heat exchangers. It also addresses utilization and storage of thermal energy and geothermal energy, directly or by function of heat pumps. The contributions of this material are thematically grouped for the content of each topic, which is introduced by summarising the key objectives of the encompassed chapters. The book is not necessarily focused to be a fundamental source of knowledge in the area it covers, but rather serves as a mentor while practising expansive solutions of particular technical issues which are faced by engineers and technicians occupied in research and development in the subjects of heat transfer and heat exchangers.



## Heat Transfer

### Edgar Miller

ISBN: 978-1-63238-441-6

\$154.99 US

Year 2015

Book Size: 6"x9"

362pp./Colored

Hardback



## Heat Transfer

### Edgar Miller

ISBN: 978-1-63238-455-3

\$160.00 US

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Book Size: 6"x9"

420pp./Colored

Hardback

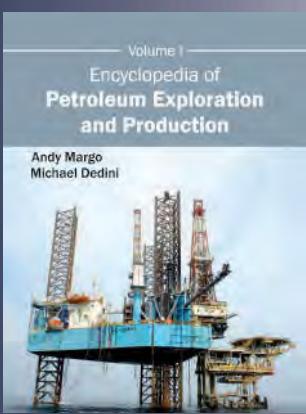
## The Researcher's Guide to Heat Conduction

This book consists of research-focused information regarding heat conduction and aims to serve as an efficient guide for comprehending the concepts of heat conduction. It presents various aspects of heat conduction theory like inverse heat conduction difficulties, coupled thermal and electromagnetic or mechanical effects and also, numerical methods for solving heat conduction equations. Other topics discussed in the book include inverse heat conduction difficulties, defining analytical explanations of nonlinear heat conduction difficulties, wavelike solutions, mixed effects of heat conduction in plasmas or in pyroelectric material elastic deformations. It also demonstrates numerical methods for solving heat conduction problems.

## Trends and Applications of Heat Treatment

The trends and novel applications of heat treatment are discussed in this profound book. Heat treatment and surface engineering are important factors in the design and manufacture of strategic components in a vast range of market sectors and industries, inclusive of air, sea and land transportation, energy production, mining, defence, and agriculture. This book presents an overview of the latest advancements in the applications of thermal and thermo-chemical processing to alter the microstructure and properties of a vast range of engineering substances. The book presents two different functional areas of heat treatment. The first area deals with conventional heat treatment, with the processing of bearing rings, wrought and cast steels, aluminium alloys, basics of thermo-chemical treatment, details of carbonitriding and a design for cooling units. The second area demonstrates the usage of unconventional thermal routes for the production of substances like nanoparticles, titanium dioxide, carbides of vanadium, battery substances and cinder mortars. A mixture of conventional and new functions, analysis of several processes employing heating, quenching and thermal diffusion, makes the book beneficial for a vast audience of scientists and engineers from academics and industries.

## Energy



Volume I

ISBN: 978-1-63238-151-4

\$154.99 US

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Andy Margo  
Michael Dedini

### Encyclopedia of Petroleum Exploration and Production

This book is designed to provide readers with a broad background and firm foundation to gain advanced knowledge in the field. In depth discussions of new research on drilling techniques, as well as emerging equipment used in oil extraction and the industry are presented here. Career opportunities for graduates in this field have also been included. This book attempts to compile current and ongoing research on petroleum technologies that can shed light on various areas.

### Encyclopedia of Petroleum Exploration and Production

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ISBN: 978-1-63238-152-1

\$154.99 US

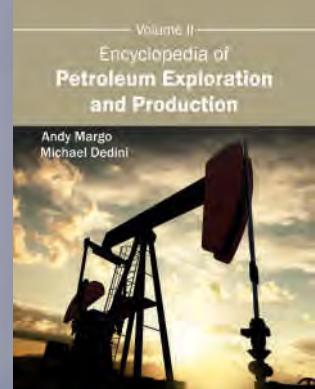
2015

Book Size: 8.5"x11"

214pp./Colored

Hardback

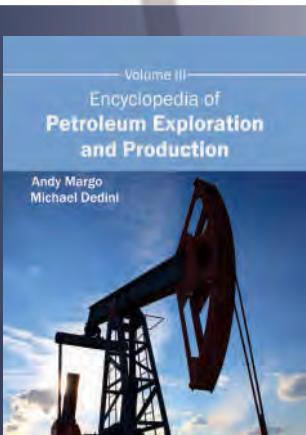
Andy Margo  
Michael Dedini



Volume II

### Encyclopedia of Petroleum Exploration and Production

This book is designed to provide readers with a broad background and firm foundation to gain advanced knowledge in the field. In depth discussions of new research on drilling techniques, as well as emerging equipment used in oil extraction and the industry are presented here. Career opportunities for graduates in this field have also been included. This book attempts to compile current and ongoing research on petroleum technologies that can shed light on various areas.



Volume III

ISBN: 978-1-63238-153-8

\$154.99 US

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Andy Margo  
Michael Dedini

# Engineering & Technology

## Energy



**Andy Margo  
Michael Dedini**

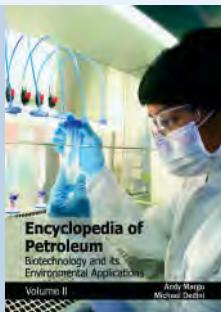
ISBN: 978-1-63238-154-5  
\$154.99 US  
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164pp./Colored  
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**Volume I**

**Volume II**

**Andy Margo  
Michael Dedini**

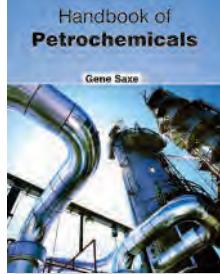
ISBN: 978-1-63238-155-2  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
154pp./Colored  
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## Encyclopedia of Petroleum: Biotechnology and its Environmental Applications

This set of two books aims to provide an overview on petroleum and biotechnology relevant to the petroleum industry. For the advances in this field to become successful, challenges that need to be surpassed are highlighted here. Discussions pertaining to experiments, field trials and other aspects are glanced at to keep in mind industrial applications and further developments. This set will be helpful for researchers as well as students.

## Energy



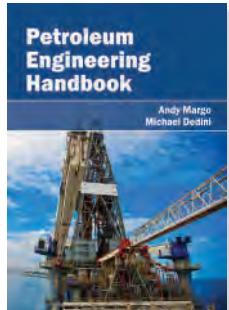
**Gene Saxe**

ISBN: 978-1-63238-262-7  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
332pp./Colored  
Hardback

## Handbook of Petrochemicals

A chemical byproduct obtained from petroleum and natural gas is defined as a petrochemical. The petrochemical industry forms a significant part of our pursuit of economic development, generation of employment and basic needs. It is a vast field that covers several commercial chemicals and polymers. This book is formulated to assist the reader, specifically students and researchers of petroleum science and engineering, in comprehending the mechanics and methodologies. The information provided in this book accompanied by the graphs, tables and examples employed to elucidate them are driven by the fact that this book is targeted mainly at the petroleum science and engineering technologists. It will act as a good source of knowledge for engineers and researchers and even students concerned with vast field of petrochemicals. This book gives valuable and worthwhile insights into the significant chemical reactions and mechanisms. The aim of this book is to serve as an informative, concise and useful source of information.

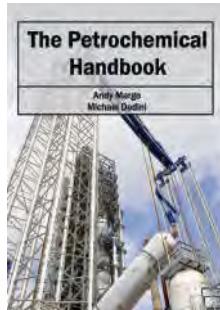
## Energy



**Andy Margo  
Michael Dedini**

ISBN: 978-1-63238-355-6  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
200pp./Colored  
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## Energy

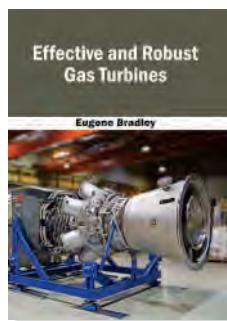


**Andy Margo  
Michael Dedini**

ISBN: 978-1-63238-440-9  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
213pp./Colored  
Hardback

## The Petrochemical Handbook

This book brings many different researches together to help the reader understand the upcoming and current technologies that are to be found in this field. Discussions on various petrochemical products and their ever increasing list of uses are included while experimental products are also glanced at. Those with an interest in the petroleum and petrochemical field will find this book adequate for their needs of keeping in touch with current technologies.



## Gas Turbines

**Eugene Bradley**

ISBN: 978-1-63238-120-0

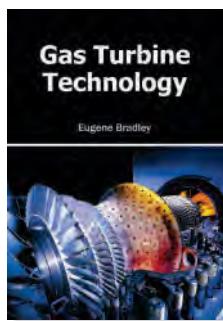
\$110.00 US

Year 2015

Book Size: 6"x9"

249pp./Colored

Hardback



## Gas Turbines

**Eugene Bradley**

ISBN: 978-1-63238-213-9

\$110.00 US

Year 2015

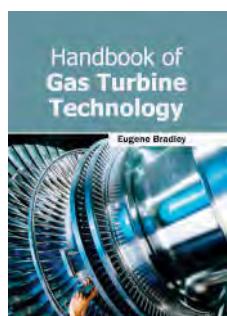
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## Effective and Robust Gas Turbines

A descriptive account on the efficiency as well as robustness of gas turbines has been provided in this book. Various topics regarding the evaluation of gas turbines and their engineering operations are presented in the book. Methodical and experimental procedures are utilized to classify failures and quantify operating circumstances and efficiency of gas turbines. Some topics included in this book are gas turbine engine flaws, diagnosis and condition monitoring systems, operating conditions of open gas turbines, reduction of jet mixing noise, recovery of exhaust heat from gas turbines, apt substances and coatings, ultra micro gas turbines and operations of gas turbines. The exchange of scientific outcomes and ideas in this book will result in an advanced reliability on gas turbines.



## Gas Turbines

**Eugene Bradley**

ISBN: 978-1-63238-251-1

\$125.00 US

Year 2015

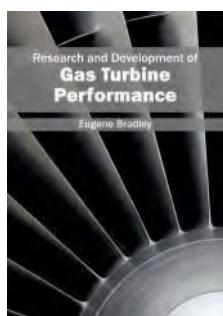
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## Gas Turbine Technology

Gas turbine engines will be the dominant essential technology in the next 20-year energy scenarios, either in stand-alone procedures or in combination with other energy generation apparatus. This book gives a comprehensive summary of gas turbine technology and describes some of the key developments that feature the gas turbine technology in various applications, like marine and aircraft propulsion, and industrial and stationary power generation. Thus, this book targets design, maintenance, analyst, and material engineers. Also, it will be highly beneficial to manufacturers, researchers and scientists due to the timely and correct knowledge presented in this book.



## Gas Turbines

**Eugene Bradley**

ISBN: 978-1-63238-400-3

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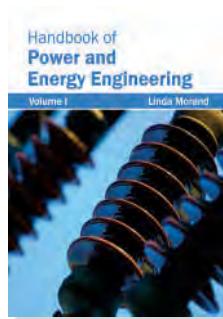
Hardback

## Research and Development of Gas Turbine Performance

This book discusses research-focused information regarding the development of gas turbine performance. There has been a remarkable transformation in the research and advancement regarding gas turbine technology for transportation and power generation. The former remains unchanged with respect to the past, as the superiority of air-breathing engines in comparison to other technologies is immense. On the other hand, the world of gas turbines (GTs) for power generation is characterized by various scenarios, as new challenges are coming up in current energy trends, where the reduction in the usage of carbon-based fuels and the increase in the utilization of renewable sources are becoming highly significant. It has been a key technology for base-load applications for many years; however major stationary gas turbines are facing challenges in balancing electricity from various renewable sources with that from flexible traditional power plants. The book presents an updated picture as well as a perspective view of some of the above mentioned topics that distinguish GT technology in two different applications- aircraft propulsion and stationary power generation. So, the target audience for the book includes design, analyst, elements and maintenance engineers. Some major topics included within the book are gas turbine and element performance, gas turbine combustion, and fault revelation in systems and substances.

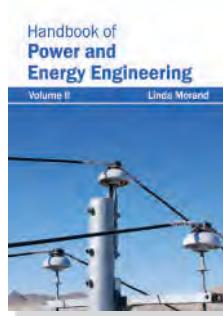
## Handbook of Gas Turbine Technology

Gas turbine engines will continue to be an essential technology in the next 20-year energy scenarios, either in stand-alone procedures or in combination with other energy generation apparatus. Some major topics are covered under two sections, 'combustion' and 'materials & fabrications'. This book targets design and maintenance analysts, and material engineers. Also, it will be highly beneficial to manufacturers, researchers and scientists due to the timely and correct knowledge presented in this book.



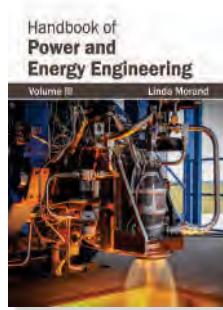
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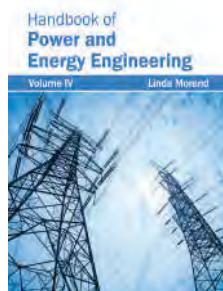
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Energy

## Handbook of Power and Energy Engineering

Volume I

Energy and power are the two co-existent indispensable sources of our existence. Research is being conducted across the globe to discover new and innovative forms of power and energy. These researches and advanced concepts have been elucidated in this book. For all those who're interested in energy and power engineering, this book will prove to be an essential guide. It will provide comprehensive knowledge to the readers and broaden their horizon of study.

## Handbook of Power and Energy Engineering

Volume II

Energy and power are the two co-existent indispensable sources of our existence. Research is being conducted across the globe to discover new and innovative forms of power and energy. These researches and advanced concepts have been elucidated in this book. For all those who're interested in energy and power engineering, this book will prove to be an essential guide. It will provide comprehensive knowledge to the readers and broaden their horizon of study.

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Volume III

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## Handbook of Power and Energy Engineering

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### **Integrating Smart Grids and Renewable Technology:**

**Volume I**

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### **Integrating Smart Grids and Renewable Technology: Volume VI**

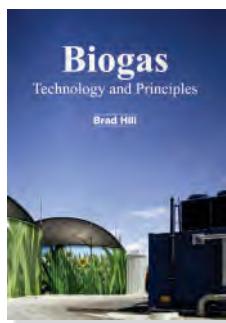
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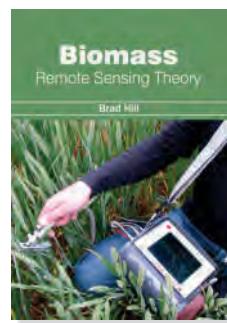
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## Alternative Energy

### Brad Hill

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## Alternative Energy

### Brad Hill

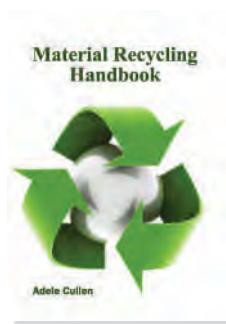
ISBN: 978-1-63238-062-3  
\$145.00 US  
Year 2015  
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334pp./Colored  
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## Biogas: Technology and Principles

Introduction to biogas, including its technology as well as principles, has been provided in this well-structured and descriptive book. It encompasses numerous research reports demonstrating sequential production of biogas and also discusses the principles and mechanisms involved in its operation. The efficacy of technologies adopted for the production of biogas, specifically anaerobic digestion of waste and gas production systems, its structure, mechanism and other aspects of the process, applications and purification of biogas, architecture of pipes and plants, evaluation of environmental facets, economic issues and a few other topics which hold importance in any aspect of biogas generation have been examined in the book.

## Biomass: Remote Sensing Theory

This book primarily discusses the remote sensing theory of biomass. Usually, the term biomass refers to all those materials that have originated from photosynthesis. Nevertheless, it can also apply to animals. It is important to conserve and manage biomass. There are several methods and techniques for its evaluation. One such technique is remote sensing which supplies data about biomass and also includes the appraisal of biodiversity and ecological factors over a large area. The immense capability of remote sensing has received huge attention over the last few decades in several different areas in biological sciences like nutrient status assessment, weed abundance, deforestation, glacial features in Arctic and Antarctic regions, density mapping and depth sounding of coastal and ocean depths. The book covers the following significant issues: various aspects of biomass study and survey, use of remote sensing for evaluation of biomass, evaluation of primary productivity through case studies and evaluating carbon storage in ecosystems.



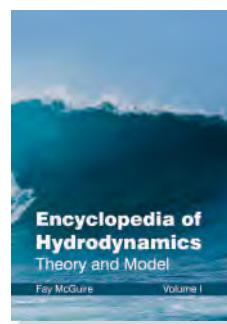
## Recycling

### Adele Cullen

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## Material Recycling Handbook

The current common practice of waste land-filling is unacceptable due to legislation pressures, rising prices and the poor biodegradability of commonly used substances. Hence, recycling appears to be the best solution. The objective of this book is to discuss recycling techniques and procedures of various substances, as well as to propose possible uses of the recycled products. The book will be beneficial for professionals, recycling corporations, researchers, academicians and graduates in the areas of waste management and polymer recycling. Other major topics included are polymer recycling using chemical, thermochemical (pyrolysis) or mechanical procedures, recycling of waste tires, pharmaceutical packaging and hardwood kraft pulp, and possible usage of recycled wastes.



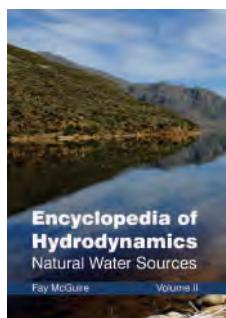
## Fluid Dynamics

### Fay McGuire

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## Encyclopedia of Hydrodynamics: Theory and Model Volume I

Hydrodynamics is the branch of science which deals with the forces acting on or exerted by fluids. This book demonstrates the engineering techniques of hydrodynamics resulting from incredible improvements in scientific research across several countries around the globe. A vast number of topics have been presented in this book, comprising of theoretical, experimental and numerical investigations on several subjects related to hydrodynamic challenges. The book intends to be a useful reference for readers engaged in this area.



## Fluid Dynamics

**Fay McGuire**

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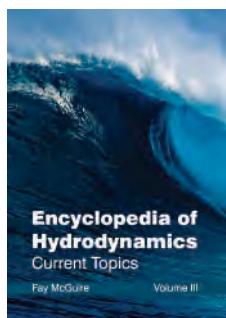
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## Fluid Dynamics

**Fay McGuire**

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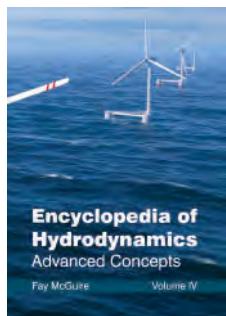
Hardback

## Encyclopedia of Hydrodynamics: Natural Water Sources Volume II

In-depth information about the concepts of hydrodynamics and natural water sources has been described in this all-inclusive book. Information regarding the properties of fluids and their capability to transport materials and physical features is extremely significant. The quantification of the activity of fluids is a complicated task. This complexity is demonstrated primarily when natural flows occurring in large scales (rivers, lakes, oceans) are considered. This book discusses various features of flows in natural water bodies, like the evolution of plumes, the transport of sediments, air-water mixtures, etc. The major topics covered in the book include tidal and wave dynamics of various water bodies, and multiphase phenomena such as air-water flows and sediments. The book provides conceptual arguments, experimental and numerical results, and demonstrates practical functions of the procedures and tools of hydrodynamics.

## Encyclopedia of Hydrodynamics: Current Topics Volume III

The phenomena associated with the flow of fluids are usually complex, and tough to quantify. Novel approaches - considering points of view still not investigated - may present useful devices in the study of Hydrodynamics and the associated transport phenomenon. The specifications of the flows and the characteristics of the fluids must be studied on a small scale. Subsequently, novel concepts and devices are devised to better explain the fluids and their characteristics. This book provides conclusions about advanced issues of calculated and observed flows. Major topics discussed are mathematical models in fluid mechanics; biological operations and bio-hydrodynamics; and exploratory evaluation of fluids and flows. This book introduces novel viewpoints about procedures and tools used in Hydrodynamics.



## Fluid Dynamics

**Fay McGuire**

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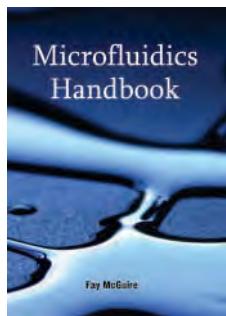
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## Fluid Dynamics

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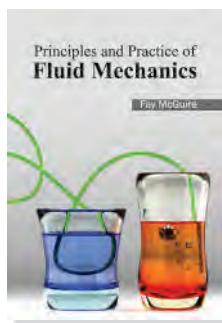
## Encyclopedia of Hydrodynamics: Advanced Concepts Volume IV

This book examines novel viewpoints about procedures and tools used in Hydrodynamics. The phenomena associated with the flow of fluids are usually complex, and tough to quantify. Novel approaches - considering points of view still not investigated - may present useful devices in the study of hydrodynamics and the associated transport phenomenon. The specifications of the flows and the characteristics of the fluids must be studied on a small scale. Subsequently, novel concepts and devices are devised to better explain the fluids and their characteristics. This book provides conclusions about advanced issues of calculated and observed flows. Major topics in this book are radiation, electro-magneto-hydrodynamics and magneto-rheology; special points on simulations and experimental inputs are also discussed.

## Microfluidics Handbook

By presenting various concepts and methods of microfluidics, this book helps its readers learn more about this field. It presents contemporary views on the discipline of microfluidics as it relates to a range of sub-disciplines. The book discusses topics like fluid dynamics, its technology and its applications. Furthermore, it presents some important aspects of microfluidics. This book will serve as a resource for beginners and experts interested in this field.

# Engineering & Technology



## Fluid Dynamics

**Fay McGuire**

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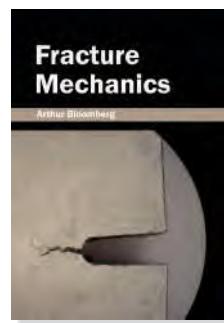
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## Fracture Mechanics

**Arthur Bloomberg**

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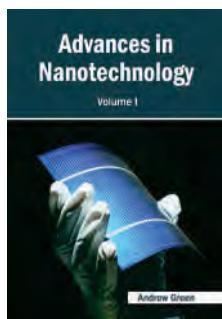
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## Principles and Practice of Fluid Mechanics

Fluid mechanics is a complicated and extremely challenging field of study. It is central to several matters that are significant not only technologically, but also sociologically. This book emphasizes on a cross-section of procedures in fluid mechanics, each of which explains new ideas and relates to one or more matters of high interest during the early 21st century. The challenges constitute multi-phase flows, compressibility, non-linear dynamics, flow instability, transforming solid-fluid boundaries and fluids with solid-like characteristics. The procedures relate difficulties like weather and climate forecast, health care, efficiency of fuel, wind/wave energy harvesting, air quality, erosion, lessening landslides and noise.

## Fracture Mechanics

This book is a collection of research work on the operations of fracture mechanics procedures in materials science, medicine and engineering. Major topics presented in this book highlight the strength of biological tissues, safety of nuclear reactor components, fatigue effects in pipelines, environmental effects on fracture etc. Also, the book includes mathematical and computational steps underlying the fracture mechanics operations, and also advancements in statistical modeling of fatigue. It will be most beneficial to mechanical and civil engineers, and material scientists from industry, research and education.



## Nanotechnology

**Andrew Green**

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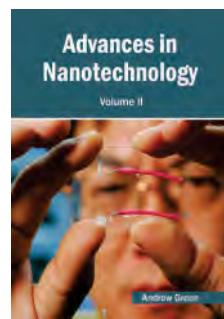
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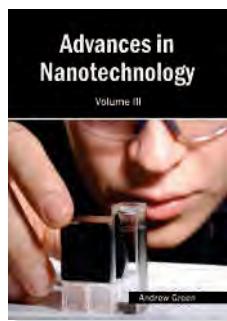
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## Advances in Nanotechnology: Volume I

In contemporary times, nanotechnology is a crucial subject contributing towards the advancement of human life. This book provides a detailed look into the field of nanotechnology and its applications, uses, and impact on human life. Various applications along with relevant examples have been discussed through the chapters. Some studies presented in the book attempt to uncover the present as well as future aspects related to the field of nanotechnology. Undoubtedly, nanotechnology is a vast and emerging field of science which is now being considered as the beginning of a new scientific revolution.

## Advances in Nanotechnology: Volume II

In contemporary times, nanotechnology is a crucial subject contributing towards the advancement of human life. This book provides a detailed look into the field of nanotechnology and its applications, uses, and impact on human life. Various applications along with relevant examples have been discussed through the chapters. Some studies presented in the book attempt to uncover the present as well as future aspects related to the field of nanotechnology. Undoubtedly, nanotechnology is a vast and emerging field of science which is now being considered as the beginning of a new scientific revolution.



## Nanotechnology

**Andrew Green**

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## Nanotechnology

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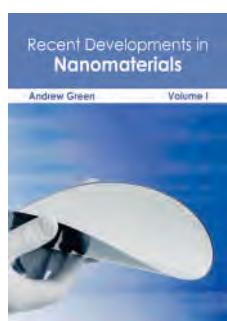
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## Micro-Nano Electrochemical Systems and Fabrication Techniques Handbook

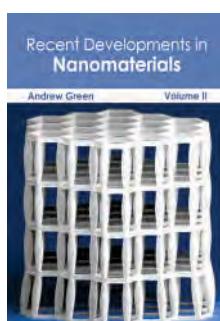
This book is a collection of researches by various experts who share their analysis of current trends and future implications of micro-nano electrochemical systems. MEMS technology is progressively influencing and improving our quality of life. Simultaneously, progress in nanotechnology and nanomaterials has accelerated the growth of NEMS. This book consists of an analysis of modern technologies and their forthcoming developments. It focuses on the recent progress in devices and production procedures in the field of these miniaturized electromechanical structures. This book presents information about design, production and packaging; as well as solutions in these aspects for targeted functions. This book aims to help experts and students who are engaged in this field.



## Nanomaterials

**Andrew Green**

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## Nanomaterials

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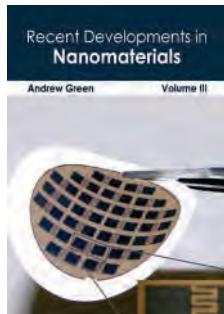
## Recent Developments in Nanomaterials: Volume I

Nanomaterials are a rapidly growing field of interest for lots of people because of its wide use in industrial advancement. This book is a collection of contributions by some of the experts in the field of the nanomaterials. It includes the studies about the present as well as the future aspects of nanomaterials. This book also explains the theories related to the usage of nanomaterials. Topics covered in this book will help researchers as well as students for their future studies.

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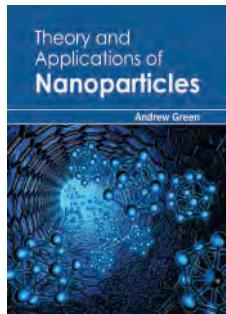
# Engineering & Technology



## Nanomaterials

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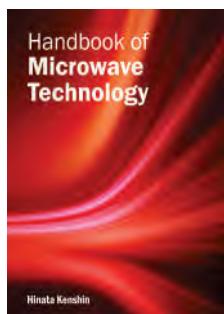
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**Andrew Green**

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## Microwave Technology

**Hinata Kenshin**

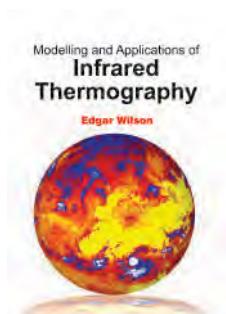
ISBN: 978-1-63238-256-6  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
218pp./Colored  
Hardback

## Handbook of Microwave Technology

This book is a compilation of well written and well-reviewed researches and case studies based on microwave sciences and technologies. The chapters in this book discuss some of the most advanced concepts of microwave science. Designing, performance, applications of crucial microwave techniques such as microwave imaging, wireless applications etc. are some of the significant topics covered. This book aims to contribute to the progress of microwave science and related technology by presenting the most advanced concepts and theories from across the globe.

## Theory and Applications of Nanoparticles

Nanoparticles, though very small, have an immense impact on the industrial sector. The purpose of this book is to enlarge the spectrum of this new emerging field of science that may give rise to the technology which will change the face of human life. The chapters covered in this book are written by experts in this field. This book aims to contribute to the progress of this discipline and help researchers, scientists and students across the globe in grasping the subject better.



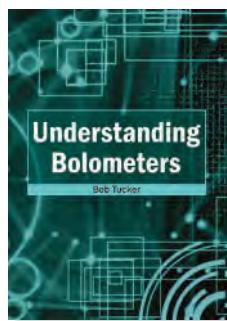
## Infrared Technology

**Edgar Wilson**

ISBN: 978-1-63238-330-3  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
248pp./Colored  
Hardback

## Modelling and Applications of Infrared Thermography

Infrared thermography, its modeling as well as applications are described in this extensive book. To diagnose casualty and provide therapeutic action, Infrared Thermography (IRT) is used as a Nondestructive Examination (NDE) tool. The areas of application of this tool constitute a wide range varying from materials science, life sciences and applied engineering. The book encompasses various important topics, which are connected to utilization of infrared thermography to analyze issues in materials science, agriculture, veterinary and sports fields; and also in engineering applications. Both arithmetical designs and research approaches of IRT have been described in the book. The book has been compiled with an aim to provide the readers with requisite knowledge about IRT and garner more interest for research in this domain.



## Sensors

**Bob Tucker**

ISBN: 978-1-63238-459-1

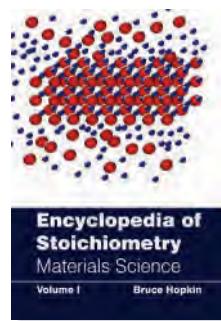
\$110.00 US

Year 2015

Book Size: 6"x9"

208pp./Colored

Hardback



## Stoichiometry

**Bruce Hopkin**

ISBN: 978-1-63238-170-5

\$160.00 US

Year 2015

Book Size: 6"x9"

450pp./Colored

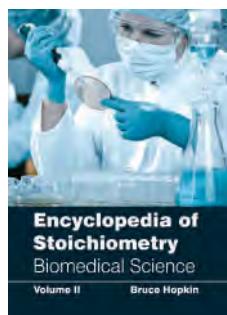
Hardback

## Understanding Bolometers

A bolometer is a sensitive electrical instrument for measuring radiant energy. Infrared detectors and related technologies have important applications not only in defense sector, but also for distinct civilian purposes. Some cost effective modern devices based on infrared technologies have been rapidly emerging on the global front. Different facets of bolometer advancements have been described in this book. It encompasses materials used, types of bolometers, their performance, utilization and prospective trends. This book will be of great help not just to the experts and professionals but also to the students who are involved in this discipline of science.

## Encyclopedia of Stoichiometry: Materials Science Volume I

This book provides a comprehensive overview of the relevance of stoichiometry in the field of material engineering. It compiles various researches and reviews offering latest information regarding stoichiometry at different levels. The book covers various applications of stoichiometry, such as the role of stoichiometry in nanotechnology, defect chemistry and electrochemical applications. It also discusses intermetallic compounds and metal oxides. The book also elucidates latest methods for solid phase synthesis and the impact of stoichiometry in energy production. This book will be helpful to engineers, academicians and scientists working in the field of materials science.



## Stoichiometry

**Bruce Hopkin**

ISBN: 978-1-63238-171-2

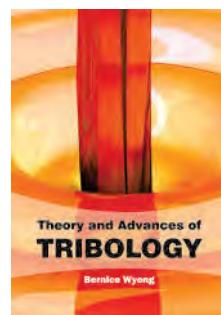
\$154.99 US

Year 2015

Book Size: 6"x9"

390pp./Colored

Hardback



## Tribology

**Bernice Wyong**

ISBN: 978-1-63238-445-4

\$145.00 US

Year 2015

Book Size: 6"x9"

327pp./Colored

Hardback

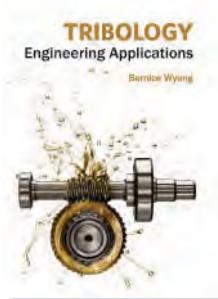
## Theory and Advances of Tribology

The science of interacting surfaces in relative motion is referred to as tribology. The field of tribology consists of lubrication, friction and wear of contact elements relevant to practical operations. Latest results and advancements are discussed and analyzed in the context of established information. The book combines fundamental concepts with novel findings. It discusses topics such as lubrication, the characteristics of lubricants, boundary lubrication applications, testing and modeling, and sustainability of tribosystems. The book includes contributions by prominent experts and attempts to convey latest research trends in tribology to students, scientists and practitioners.

## Encyclopedia of Stoichiometry: Biomedical Science Volume II

Stoichiometry deals with the statistical analysis of quantity of reacting agents and finished products in a chemical reaction. The purpose of this text is to provide an insight on the significance of stoichiometry in the biomedical domain. It brings a compilation of chosen research works and evaluations which offer latest updates related to stoichiometry at different stages. In this book, a range of topics like host-guest chemistry, with special emphasis on cyclodextrins and crown ethers derivatives, matters relating to stoichiometry of metal complexes and lipids, importance of stoichiometry in the identification of protein interactions, experimental methods used in certain systems and the interrelation between biomedicine and environment leading to the formulation of the concept of biological stoichiometry have been presented. This text will be of great significance, providing essential scientific data to experts involved in associated fields.

# Engineering & Technology



## Tribology

**Bernice Wyong**

ISBN: 978-1-63238-456-0

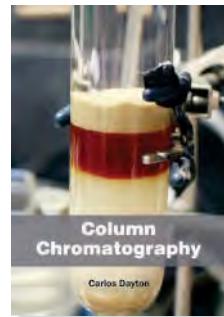
\$125.00 US

Year 2015

Book Size: 6"x9"

252pp./Colored

Hardback



## Chromatography

**Carlos Dayton**

ISBN: 978-1-63238-083-8

\$110.00 US

Year 2015

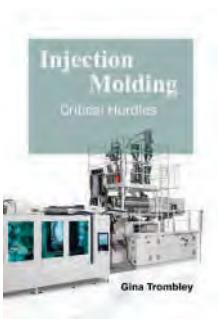
Book Size: 6"x9"

219pp./Colored

Hardback

## Tribology: Engineering Applications

Tribology is basically defined as the study of friction, wear, lubrication, and the design of bearings; the science of interacting surfaces in relative motion. The objective of compiling this book was to present modern concepts, new discoveries and innovative ideas in the area of surface engineering, primarily for technical operations, and also in the area of production engineering and to stress some difficulties connected with the usage of several surface procedures in modern manufacturing of various purpose machine parts. This book is an effort to introduce science into the study of surface treatment procedures. Tribology presents a good approach for explaining abrasive machining and coating procedures and provides the ability to predict some of the outputs of the procedures. The study of friction, forces and energy investigates the significance of several factors which govern the stresses and deformations of abrasion. The impacts of grain shape, extent of penetration and lubrication on the procedures are investigated. The tribology of nanostructured surfaces includes several basic and scientific topics. Most importantly, it has immense operations in industries. It is a powerful device to check friction, adhesion and wetting of surfaces by changing their geometric textures and substance compositions at the nanoscale, and hence, to control the tribological performance of the engineering surfaces.



## Injection Molding

**Gina Trombley**

ISBN: 978-1-63238-295-5

\$125.00 US

Year 2015

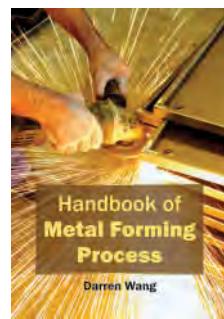
Book Size: 6"x9"

281pp./Colored

Hardback

## Column Chromatography

Column chromatography is a purification technique used in chemistry for the purification of individual chemical compounds from mixtures. This book displays the efforts of various researchers and scientists from different countries. It discusses the combined endeavors being taken by professionals in current research processes. It not only provides theoretical information but also essential experimental details which will be of great utility. This book is a rich account of information and inspiration for the people interested and involved in this field.



## Metallurgy

**Darren Wang**

ISBN: 978-1-63238-253-5

\$110.00 US

Year 2015

Book Size: 6"x9"

221pp./Colored

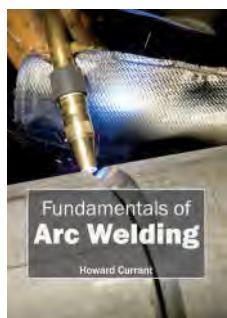
Hardback

## Handbook of Metal Forming Process

This book discusses various characteristics of metal forming and its process, tools and design. The various chapters within this book discuss advanced processes and analysis of these processes, keeping in mind the aspects of the materials. The book also includes chapters on machine tools and their structures. Strategies for a programmable metal forming press and procedures for calculating forming limits of sheet metal are also discussed.

## Injection Molding: Critical Hurdles

This book offers information regarding injection molding provided by veteran academic experts in this field from across the world. An introductory account on polymer PVT measurements and two important application areas of polymer PVT data in injection molding have been covered: Optimization for injection molding process and Powder Injection Molding, which further consists of Ceramic Injection Molding and Metal Injection Molding. Some special techniques and applications in injection molding have also been elucidated in this book. Vivid presentation of injection molding process and equipment has been provided in this book in order to direct interested readers to understand plastics manufacturing in resolving problems and errors. The aim of this book is to provide the readers with useful information about the injection molding operation and acquaint them with working knowledge on this topic.



## Welding

### Howard Currant

ISBN: 978-1-63238-209-2

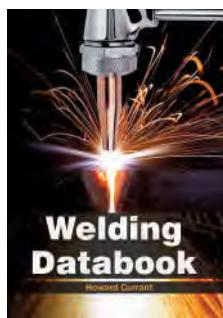
\$145.00 US

Year 2015

Book Size: 6"x9"

332pp./Colored

Hardback



## Welding

### Howard Currant

ISBN: 978-1-63238-463-8

\$160.00 US

Year 2015

Book Size: 6"x9"

453pp./Colored

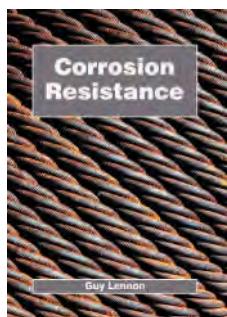
Hardback

## Fundamentals of Arc Welding

This book presents an introduction on the fundamentals of arc welding and analysis of its applicability in various spheres. Since the invention of arc technology in 1870s and its early application in welding lead for manufacturing lead-acid batteries, developments in arc welding across the twentieth and twenty-first centuries have prompted this processing method to be applied to a wide spectrum of industries. Advancements have led arc welding to become one of the most efficient techniques in metals and alloys joining. The purpose of this book is to present prevalent methodologies and techniques which have been studied, developed and applied in industries or researches. State-of-the-art development intended at advancing technologies have been discussed covering topics like weldability, technology, automation, modelling, and measurement. It aims to offer efficient solutions to several applications for engineers and researchers associated with arc material processing.

## Welding Databook

The processes of welding are explained thoroughly in this elaborate book. Although there is a broad range of available literature on welding processes, a demand still exists to regularly update the engineering community on advancements in joining techniques of similar and dissimilar materials, in their numerical modelling, as well as in their sensing and control. This book has been compiled by a group of authors from different countries across five continents who joined hands to co-author this book on welding processes, giving detailed insight to the reader. Some of the main topics discussed here are sensing of welding procedures, welding of laser and numerical modelling.



## Corrosion

### Guy Lennon

ISBN: 978-1-63238-102-6

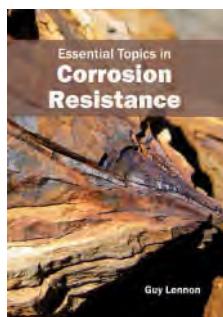
\$110.00 US

Year 2015

Book Size: 6"x9"

258pp./Colored

Hardback



## Corrosion

### Guy Lennon

ISBN: 978-1-63238-185-9

\$110.00 US

Year 2015

Book Size: 6"x9"

238pp./Colored

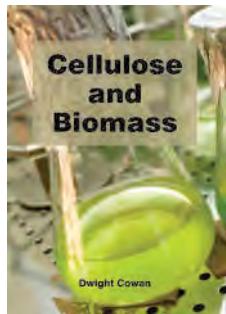
Hardback

## Corrosion Resistance

The book presents the state-of-the-art techniques, advancement and research progress of corrosion studies in a vast range of research and application areas. Topics contributed by the authors are corrosion features and its resistant nature. Apart from the conventional corrosion study, the book also discusses energy, fuel cell, reinforcing fibers and anticorrosive coatings. The discussed operations of corrosion resistance substances will also add value to the reader's knowledge.

## Essential Topics in Corrosion Resistance

The book has presented the state-of-the-art techniques, advancement and research progress of corrosion studies in a vast range of research and application areas. Topics contributed by the authors are corrosion features and its resistant nature. Apart from the conventional corrosion study, the book also discusses corrosion study in green substances, in semi-conductor industry, improvement of corrosion resistance by natural products. The various operations of corrosion resistance substances will also add value to the reader's work at various stages.



## Biomaterials

### Cellulose and Biomass

Dwight Cowan

ISBN: 978-1-63238-071-5

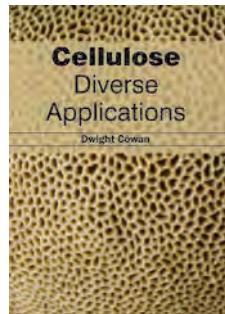
\$110.00 US

Year 2015

Book Size: 6"x9"

238pp./Colored

Hardback



## Biomaterials

### Cellulose: Diverse Applications

Dwight Cowan

ISBN: 978-1-63238-072-2

\$145.00 US

Year 2015

Book Size: 6"x9"

317pp./Colored

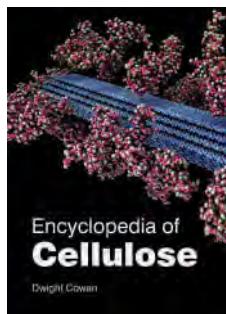
Hardback

## Cellulose and Biomass

The significance of cellulose and biomass has been dealt with in this comprehensive book. Cellulose is one of those essential components of biomass which is available in abundance. Cellulose is extracted from biomass to use it for producing chemicals and useful materials from it. Different matters concerning cellulose extraction and its conversion have been described in this comprehensive book on cellulose. Cellulose conversion is an important aspect of biorefinery discipline. This book is a valuable source of information for professionals and students involved in this branch of science.

## Cellulose: Diverse Applications

This book offers an in-depth look at cellulose, elucidating its diverse applications. It discusses both the existing and potential applications of cellulose. It displays the features of cellulose that makes it versatile component to be applied in varied field of science such as pharmaceuticals, bioelectronics etc. This book would help readers to explore this domain and they will be able to use their innovativeness to introduce some novel applications of cellulose.



## Cellulose

### Encyclopedia of Cellulose

Dwight Cowan

ISBN: 978-1-63238-127-9

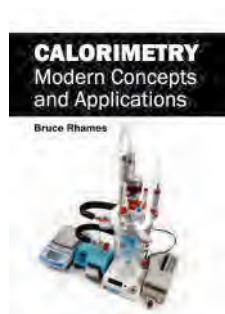
\$154.99 US

Year 2015

Book Size: 6"x9"

379pp./Colored

Hardback



## Calorimetry

### Calorimetry: Modern Concepts and Applications

Bruce Rhames

ISBN: 978-1-63238-068-5

\$125.00 US

Year 2015

Book Size: 6"x9"

268pp./Colored

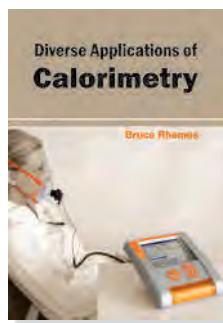
Hardback

## Encyclopedia of Cellulose

The aim of this book is to provide state-of-the-art information about cellulose to the readers. Depletion of fossil fuels and environmental awareness are the key reasons behind people turning towards biomaterials as an alternative source of energy, chemicals and materials. Among these, cellulose is emerging as an essential resource in the domain of bio-economy. Cellulose science is evolving at a rapid pace. It is available sufficiently in the nature and has distinct properties which make it ideal for biomass conversion. This book encompasses the basics of cellulose, its properties and intensive knowledge about cellulose science.

## Calorimetry: Modern Concepts and Applications

As a technique for thermal analysis, calorimetry has a broad spectrum of applications which are not only restricted to studying the thermal characterization (e.g. melting temperature, denaturation temperature and enthalpy change) of small and large drug molecules, but are also extended to characterization of fuel, metals and oils. Differential Scanning Calorimetry is applied to study the thermal behaviors of drug molecules and excipients by calculating the differential heat flow required to maintain the temperature difference between the sample and reference cells. Microcalorimetry is applied to study the thermal transition and folding of biological macromolecules in dilute solutions and could also be applied in formulation and stabilization of therapeutic proteins. This book consists of research from around the world on the usage of calorimetry which is grouped under three sections; namely, Thermal Analysis of Phase Transitions of Polymers and Paraffinic Wax, Indirect Calorimetry to Measure Energy Expenditure, and Applications of Calorimetry into Propellants, Alloys, Mixed Oxides and Lipids.



## Calorimetry

**Bruce Rhames**

ISBN: 978-1-63238-117-0

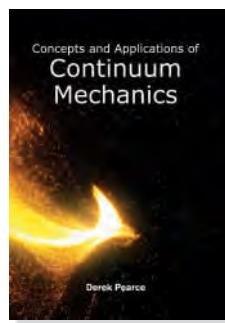
\$110.00 US

Year 2015

Book Size: 6"x9"

230pp./Colored

Hardback



## Continuum Mechanics

**Derek Pearce**

ISBN: 978-1-63238-091-3

\$95.00 US

Year 2015

Book Size: 6"x9"

169pp./Colored

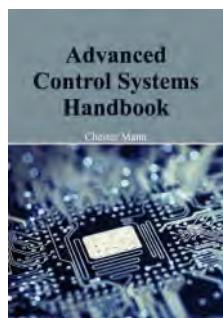
Hardback

## Diverse Applications of Calorimetry

Calorimetry, as a technique for thermal analysis, has a broad spectrum of applications which are not only restricted to studying the thermal characterization (e.g. melting temperature, denaturation temperature and enthalpy change) of small and large drug molecules, but are also applied to characterization of fuel, metals and oils. Differential Scanning Calorimetry is applied to study the thermal behaviors of drug molecules and excipients by calculating the differential heat flow required to maintain the temperature difference between the sample and reference cells. Microcalorimetry is applied to study the thermal transition and folding of biological macromolecules in dilute solutions and could also be applied in formulation and stabilization of therapeutic proteins. This book consists of research from around the world on the usage of calorimetry on both solid and liquid states of materials and has been grouped under sections: Application of Differential Scanning Calorimetry into Pharmaceuticals, Application of Isothermal Titration Calorimetry for Analysis of Proteins and DNA, and Application of Microcalorimetry to Study Protein Stability and Folding Reversibility.

## Concepts and Applications of Continuum Mechanics

Covering every aspect of Continuum Mechanics, this book brilliantly elucidates its concepts and applications. Continuum mechanics is the base of Applied Mechanics. There are a number of books on Continuum Mechanics emphasizing on the macro-scale mechanical conduct of materials. Unlike traditional Continuum Mechanics books, this book provides synopsis on the developments in some specific areas of Continuum Mechanics. This book focuses primarily on the applications aspects. Energy materials and systems i.e. fuel cell materials and electrodes, substance deportation and mechanical response/deformation of plates, pipelines etc. have been covered under the applications described in this book. Researchers from different fields will benefit from reading about the mechanics approach to solve engineering problems.



## Control Theory

**Chester Mann**

ISBN: 978-1-63238-013-5

\$125.00 US

Year 2015

Book Size: 6"x9"

288pp./Colored

Hardback



## Fuzzy Logic

**Frank West**

ISBN: 978-1-63238-010-4

\$160.00 US

Year 2015

Book Size: 6"x9"

430pp./Colored

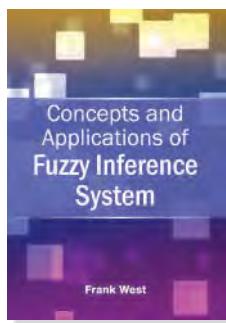
Hardback

## Advanced Control Systems Handbook

A descriptive study of advanced control systems has been provided to the readers in this book. It comprehensively presents current developments in advanced control from both theoretical and practical outlook. The book highlights basic and advanced research outcomes and also talks about evolution in technical aspects of control theory. The book is an excellent source of interface between the theorists and the researchers of control therapy to remain updated about developments in each other's domain. It also aids growth of new control schemes and their usage. Furthermore, the book presents new pathways for students and practitioners to learn about the frontiers of control technology.

## Advanced Concepts and Applications of Fuzzy Logic

The advanced concepts and applications of fuzzy logic are elucidated in this comprehensive book. This book presents novel perceptions and ideas of Fuzzy Logic Control for their implementation in growth of robotics and intelligent devices. This book discusses three important aspects; Robotics and Electrical Machines, Intelligent Control Systems with various applications, and New Fuzzy Logic Concepts and Theories. It will be handy to practitioners, engineers and students who are keen to gain knowledge about this subject.



## Fuzzy Logic

**Frank West**

ISBN: 978-1-63238-092-0

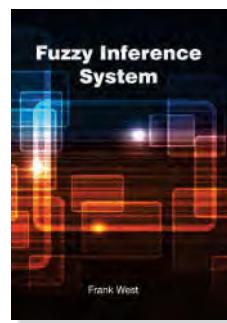
\$95.00 US

Year 2015

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203pp./Colored

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## Fuzzy Logic

**Frank West**

ISBN: 978-1-63238-210-8

\$145.00 US

Year 2015

Book Size: 6"x9"

324pp./Colored

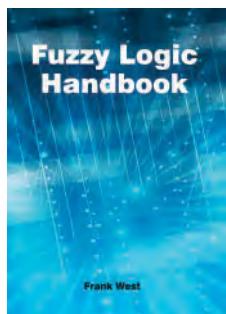
Hardback

## Concepts and Applications of Fuzzy Inference System

This book aims to compile all important researches on the versatile and wide subject of engineering and management using Fuzzy Inference System (FIS). The book talks about the theoretical approaches of FIS, deals with the functions of FIS in management related issues and discusses FIS usage in mechanical and factory engineering issues. It also describes FIS relevance to image forming and related issues.

## Fuzzy Inference System

The book compiles all important researches on the versatile and wide subject of engineering and management using Fuzzy Inference System (FIS). The book talks about the theoretical approaches of FIS, deals with the functions of FIS in management related issues, FIS utilization in varied power system engineering issues and focuses on the FIS application to system making and restraining issues. Lastly, it portrays FIS applications to civil engineering problems.



## Fuzzy Logic

**Frank West**

ISBN: 978-1-63238-211-5

\$125.00 US

Year 2015

Book Size: 6"x9"

293pp./Colored

Hardback



## Fuzzy Logic

**Frank West**

ISBN: 978-1-63238-342-6

\$145.00 US

Year 2015

Book Size: 6"x9"

350pp./Colored

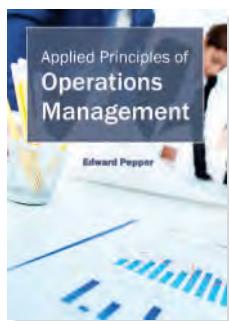
Hardback

## Fuzzy Logic Handbook

Fuzzy logic has developed into an important means of solving problems in all domains. It has a huge impact on the design of autonomous intelligent systems. This book discusses hybrid algorithms, techniques, and implementations of fuzzy logic. The main focus of the book is on the models and fundamentals of fuzzy logic and issues related to its technique and implementations. This book will prove beneficial to engineers, researchers, and graduate students who are working in the field of fuzzy logic.

## New Approaches in Fuzzy Logic

Fuzzy logic has significant applications in numerous fields. The novel approaches in fuzzy logic have been described in this insightful book. The effectiveness of fuzzy logic in the advancement of rising technologies is elucidated in this book. It describes several applications in the field of health, communication, bioinformatics, transportations, financial management, security, energy and environment systems. This book will serve as a primary source of reference for all those interested in applied intelligent systems including researchers, medical practitioners, engineers and students.



Management

**Edward Pepper**

ISBN: 978-1-63238-057-9

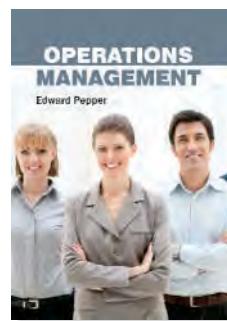
\$110.00 US

Year 2015

Book Size: 6"x9"

211pp./Colored

Hardback



Management

**Edward Pepper**

ISBN: 978-1-63238-354-9

\$110.00 US

Year 2015

Book Size: 6"x9"

248pp./Colored

Hardback

## Applied Principles of Operations Management

This book illustrates the important connection between operations strategy, its management and research, and various departments, systems and applications throughout an organization. The contributors within the book depict how mathematical devices and enhanced procedures can be applied effectively in unique measures to other operations. It gives examples that demonstrate the challenges confronting the firms competing in today's demanding environment in overcoming the gap between theory and practice by evaluating real situations.

## Operations Management

Comprehensive information regarding the field of operations management has been encompassed in this profound book. Operations management is a field of business concerned with managing the procedure that transforms inputs into outputs, in the form of goods and/or services. Due to the increase in complex environments along with the current economic swings and substantially squeezed industrial margins, there is extra pressure on corporations, and decision makers are pushed to enhance operational efficiency and effectiveness. This book includes contributions by various experts which demonstrate novel ideas, original results, practical experiences and a systematization of some basic issues in operations management. This book will be useful for readers from various backgrounds interested in this field.



Operations Research

**Amelia Epps**

ISBN: 978-1-63238-107-1

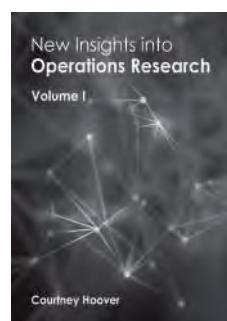
\$90.00 US

Year 2015

Book Size: 6"x9"

139pp./Colored

Hardback



Operations Research

**Courtney Hoover**

ISBN: 978-1-63238-348-8

\$154.99 US

Year 2015

Book Size: 8.5"x11"

222pp./Colored

Hardback

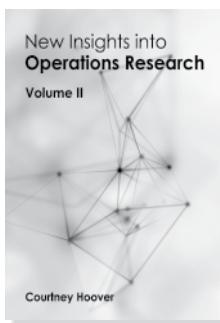
## Current Approaches in Metaheuristics

Current approaches in metaheuristics have been presented in this up-to-date book. This book aims at drawing attention of practitioners and researchers towards the applicability of metaheuristic algorithms to practical scenarios arising from different knowledge disciplines. Special focus has been paid to evolutionary algorithms and swarm intelligence as computational means to effectively balance the trade-off between optimality of the produced solutions and the complexity derived from their estimation. The book's objective is to assist students in this field during initial stages of their research on metaheuristics, based on both thorough review and practical orientation of its contents.

## New Insights into Operations Research: Volume I

Operations research is a relatively nascent yet dynamic field of study. Its applications in the industry are constantly growing. This book attempts to understand the new developments across the globe in the field of operations research. The various projects that are constantly contributing towards evolving and advancing technologies and the prospects of this field are looked at in detail here.

# Engineering & Technology



## Operations Research

**Courtney Hoover**

ISBN: 978-1-63238-349-5

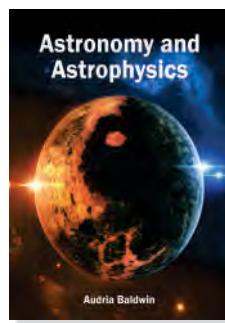
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## Astronomy & Astrophysics

**Audria Baldwin**

ISBN: 978-1-63238-058-6

\$154.99 US

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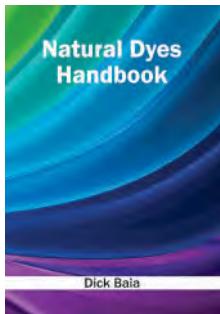
## New Insights into Operations Research:

### Volume II

Operations research is a relatively nascent yet dynamic field of study. Its applications in the industry are constantly growing. This book attempts to understand the new developments across the globe in the field of operations research. The various projects that are constantly contributing towards evolving and advancing technologies and the prospects of this field are looked at in detail here.

## Astronomy and Astrophysics

Since a large amount of time in both astronomy and astrophysics is spent on theoretical and observational physics, a detailed explanation of both these branches is given here. This book attempts to decode the allure of space and to elucidate the extraordinary objects that are studied. The science behind both branches is explained while also giving its history and evolution into what it is today. This book will be helpful for those who are already acquainted with this field as well as newcomers.



## Natural Dyes

**Dick Baia**

ISBN: 978-1-63238-341-9

\$90.00 US

Year 2015

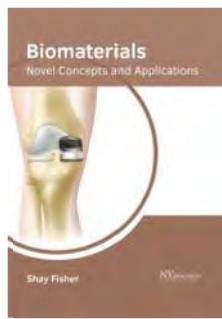
Book Size: 6"x9"

135pp./Colored

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## Natural Dyes Handbook

Dyes have played a major role in the progress of the textile industry. This is a comprehensive book which aims to provide in-depth information along with a concise introduction to natural dyes. It is impossible to imagine textile materials without colorants as archaeological evidence reflects that dyeing has been extensively used for more than 5000 years. With the advancement of chemical industry, all finishing procedures of textile materials have been growing constantly and, sustainable and ecological production techniques have become extremely crucial. This book consists of results about the novel researches on natural dyeing.



## Biomaterials

**Shay Fisher**

ISBN: 978-1-63238-527-7

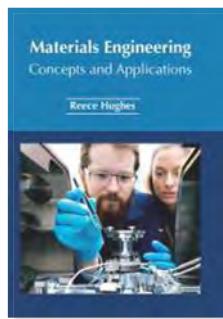
\$149.99 US

Year 2017

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## Metallurgy

**Reece Hughes**

ISBN: 978-1-63238-553-6

\$144.00 US

Year 2017

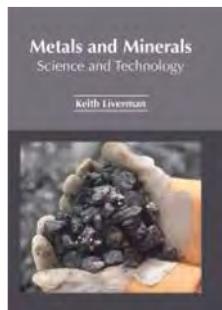
Book Size: 7"x10"

231pp./Colored

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## Biomaterials: Novel Concepts and Applications

This book discusses the fundamentals as well as modern approaches of biomaterials. It elucidates the concepts and innovative models around prospective developments with respect to this field. Biomaterials are substances produced specifically to be used in biological systems for medical and therapeutic purposes. They are primarily used in repairing, treating, and replacing a tissue. Biomaterials science incorporates elements from medicine, tissue engineering, materials science, biology, etc. This text strives to provide a fair idea about this discipline and to help develop a better understanding of the latest advances within this field. Different approaches, evaluations, methodologies and advanced studies on biomaterials science have been included in it. The book is an essential guide for both academicians and those who wish to pursue this discipline further.



## Metallurgy

**Keith Liverman**

ISBN: 978-1-63238-562-8

\$140.00 US

Year 2017

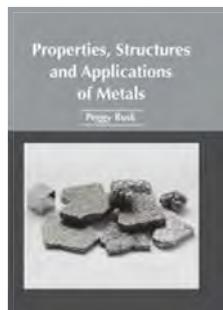
Book Size: 7"x10"

224pp./Colored

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## Materials Engineering: Concepts and Application

Materials science is the study of materials, their discovery, design and manufacture with special emphasis being given to solid materials. This book on materials science discusses the advanced principles that determine the structure of particular materials. Allied fields of research in this subject include nanomaterial engineering, biomaterial engineering and optical and magnetic materials engineering. Topics included in this book elucidate the various technologies that are applied at this level. There has been rapid progress in this field and its applications are finding their way across multiple industries. The extensive content of this book provides the readers with a thorough understanding of the subject.



## Metallurgy

**Peggy Rusk**

ISBN: 978-1-63238-555-0

\$140.00 US

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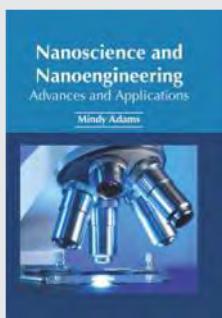
## Properties, Structures and Applications of Metals

Metals play an important role in the interdisciplinary field of materials science. With advancements in science and technology, it has been possible to produce metals with low chemical reactivity, high strength-to-weight ratios, electromagnetic shielding, etc. This has lead to major innovations in aerospace, automotive and construction industries. Some of the diverse topics covered in this book address the varied branches that fall under this category. The various advancements in metals are glanced at and their applications as well as ramifications are looked at in detail. This book provides an extensive analysis of the properties, structures and applications of metals. Scientists and students actively engaged in this field will find this book full of crucial and unexplored concepts.

## Metals and Minerals: Science and Technology

Metals and minerals are both elements which have multiple industrial applications. Most metals are extracted from a mineral ore by the process of mining. This book outlines the processes of extraction and applications of metals and minerals in detail. It elucidates new techniques and their applications in a multidisciplinary approach. The book presents researches and studies performed by experts across the globe. The various studies that are constantly contributing towards advancing technologies and evolution of this field are examined in detail. Scientists and students actively engaged in this field will find this book full of crucial and unexplored concepts.

# Materials Science



## Nanotechnology

**Mindy Adams**

ISBN: 978-1-63238-557-4

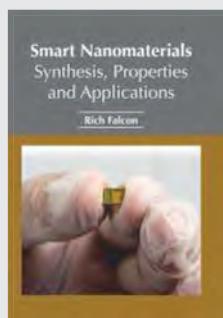
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## Nanomaterials

**Rich Falcon**

ISBN: 978-1-63238-556-7

\$134.99 US

Year 2017

Book Size: 7"x10"

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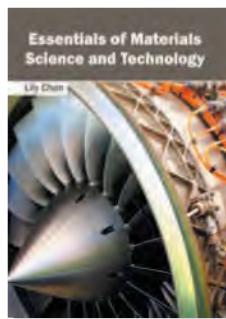
## Nanoscience and Nanoengineering:

Advances and Applications

Path-breaking studies in the field of nanoscience and nanoengineering are presented in this book. Nanoengineering and nanoscience are related fields which focus on the engineering methods practiced on a nanoscopic scale. Development in this field benefits various industries like automobile, chemicals, energy, etc. Analyzing material at nanoscale levels can give new insights into the formation and behavior of the materials that immensely benefits material scientists. This book traces the advances in this field. It also discusses the applications that help the reader to develop a comprehensive understanding of this field. A number of latest researches have been included to keep the readers up-to-date with the global concepts in this discipline.

## Smart Nanomaterials: Synthesis, Properties and Applications

Comprehensive insights into the emerging field of smart nanomaterials have been provided in this book. It discusses the synthesis, properties and applications of smart nanomaterials. Smart nanomaterials use nano-scale engineering and superior system integration of existing materials to continuously develop better materials and better products. Defense, automobile industries etc. benefit from the development of these materials. This book unfolds the innovative aspects of developing smart nanomaterials, helping the reader to explore the unexplored. As this field is emerging at a fast pace, this book will help the readers to better understand the concepts of synthesizing smart nanomaterials.



## Materials Science

**Lily Chen**

ISBN: 978-1-63238-474-4

\$134.99 US

Year 2016

Book Size: 8.5"x11"

212pp./Colored

Hardback



## Materials Science

**Andrew Green**

ISBN: 978-1-63238-489-8

\$155.00 US

Year 2016

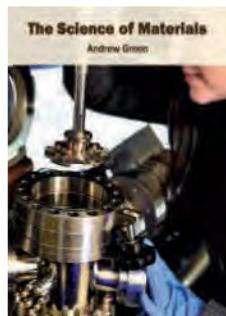
Book Size: 8.5"x11"

288pp./Colored

Hardback

## Essentials of Materials Science and Technology

Materials science is an interdisciplinary field formed by combining the principles of physics, engineering, chemistry, mineralogy, and metallurgy. While materials science studies the properties and structure of substances like ceramics, plastics and metals, materials technology is concerned with the manufacturing and design of new and improved materials. There has been rapid progress in this discipline and its applications are finding their way across multiple industries. This book is a valuable compilation of topics, ranging from the basic to the most complex advancements in this field. It will help the readers in keeping pace with the rapid changes in these areas of study. It provides comprehensive insights into the field of materials science and technology by presenting the most up-to-date researches from around the world.



## Materials Science

**Andrew Green**

ISBN: 978-1-63238-466-9

\$144.00 US

Year 2016

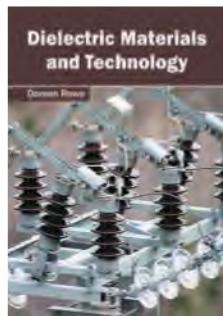
Book Size: 8.5"x11"

243pp./Colored

Hardback

## Materials Science for Engineers

Materials Science is a multidisciplinary field which involves exploration and design of new materials, especially with respect to solids. It plays a significant role in various fields such as nanotechnology, biomaterials, metallurgy, etc. This discipline has gained significance over the years due to its applicability in a large number of industries such as aviation, manufacturing, etc. This book contains some path-breaking studies in the area of materials science. The various advancements in this field have been glanced at. Those with an interest in materials science would find this book useful. It will help new researchers by foregrounding their knowledge in this area and also provide innovative insights for future researches and progress.



## Dielectric Materials

**Doreen Rowe**

ISBN: 978-1-63238-508-6

\$140.00 US

Year 2016

Book Size: 8.5"x11"

226pp./Colored

Hardback

## Dielectric Materials and Technology

This book covers in detail some of the existent theories and innovative concepts revolving around materials science. The ever growing need of advanced technology is the reason that has fueled the research in this field in recent times. This subject involves study of structure and properties of matter and design of new materials. It is an interdisciplinary field that combines chemistry, physics, mining, mineralogy and engineering. Different approaches, evaluations, methodologies and researches have been included in this text. As this discipline is emerging at a fast pace, this book will help the readers to better understand the concepts of materials science and keep pace with the latest advancements in the field.

## The Science of Materials

This book covers in detail some of the existent theories and innovative concepts revolving around materials science. The ever growing need of advanced technology is the reason that has fueled the research in this field in recent times. This subject involves study of structure and properties of matter and design of new materials. It is an interdisciplinary field that combines chemistry, physics, mining, mineralogy and engineering. Different approaches, evaluations, methodologies and researches have been included in this text. As this discipline is emerging at a fast pace, this book will help the readers to better understand the concepts of materials science and keep pace with the latest advancements in the field.

# Materials Science



## Dielectric Materials

**Doreen Rowe**

ISBN: 978-1-63238-507-9

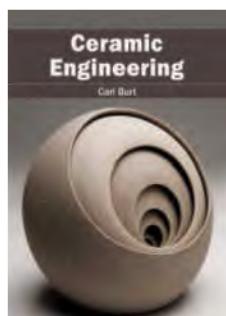
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Year 2016

Book Size: 8.5"x11"

202pp./Colored

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## Ceramics

**Carl Burt**

ISBN: 978-1-63238-479-9

\$144.00 US

Year 2016

Book Size: 8.5"x11"

243pp./Colored

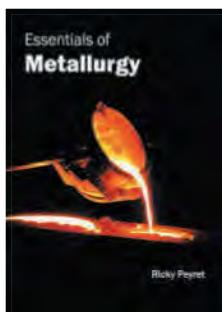
Hardback

## Dielectric Materials Engineering

Dielectric materials are insulators that can be polarized when placed in an electric field. These materials are used for the storage and dissipation of magnetic and electric energy. Dielectric materials engineering is mainly concerned with the design and development of dielectric materials for industrial as well as domestic usage. These materials include industrial coatings, mineral oils, electrets, piezoelectric materials, capacitors, resonators, etc. This book traces the progress of this field and highlights some of its key concepts and applications. It is appropriate for students seeking detailed information in this area as well as for experts. It elucidates the current theories and innovative models around prospective developments with respect to dielectric materials. The aim of this text is to provide an in-depth understanding of this discipline and unravel the unexplored aspects related to it.

## Ceramic Engineering

This book studies, analyses and upholds the pillars of ceramic engineering in modern times. The various studies that are constantly contributing towards advancing technologies and evolution of this field are examined in detail. Ceramic industry has progressed at a fast pace and found its applications in small households to large industries like aerospace, power and dentistry. Due to their heat and chemical resistant properties ceramics are used widely for preserving and carrying out exothermic reactions. This book presents the complex subject of ceramic engineering in the most comprehensible manner along with the latest researches from across the globe. For someone with an interest and eye for detail, this book covers the most significant topics in this field. It is an essential guide for both academicians and those who wish to pursue this discipline further.



## Metallurgy

**Ricky Peyret**

ISBN: 978-1-63238-469-0

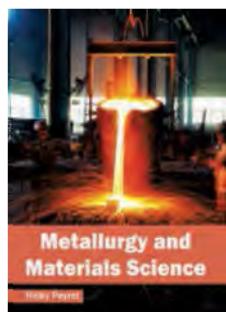
\$140.00 US

Year 2016

Book Size: 8.5"x11"

222pp./Colored

Hardback



## Metallurgy

**Ricky Peyret**

ISBN: 978-1-63238-494-2

\$149.99 US

Year 2016

Book Size: 8.5"x11"

269pp./Colored

Hardback

## Essentials of Metallurgy

Metallurgy is the subfield of materials science that studies the physical and chemical properties of metals and their alloys. This field has been helping different industries by forming new and improving already existing materials and alloys. Bioleaching, effluent treatment, pressure leaching, pretreatment of ores, process metallurgy, process modelling and control, pyrometallurgy for non-ferrous metal extraction, rare earth and precious metal extraction, recycling of non-ferrous metals and laden wastes are some of the topics discussed in this book. While understanding the long-term perspectives of the topics, the book makes an effort in highlighting their impact as a modern tool for the growth of the discipline. It will help the readers in keeping pace with the rapid changes in this field. The aim of this book is to present the unexplored aspects of this field and develop an in-depth understanding of this field.

## Metallurgy and Materials Science

Metallurgy is a subfield of materials science. It is generally applied to the purification and production of metals from their ores. Materials science on the other hand is a broader field which encompasses the discovery and design of new materials. It also requires the knowledge of engineering, physics and chemistry. There has been rapid progress in this field and its applications are finding their way across multiple industries. This book is a valuable compilation of topics, ranging from the basic to the most complex advancements in metallurgy and materials science. It attempts to understand the multiple branches that fall under the discipline of materials science and how such concepts have practical applications. It will help the readers in keeping pace with the rapid changes in this field.



## Materials Recycling

Adele Cullen

ISBN: 978-1-63238-511-6

\$140.00 US

Year 2016

Book Size: 8.5"x11"

223pp./Colored

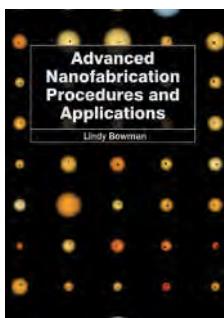
Hardback

## Materials Recycling

The aim of this book is to present researches that have transformed the discipline of materials recycling and aided its advancement. It unravels the recent studies in this field and provides in-depth knowledge about the various techniques and concepts related to it. Materials recycling refers to the process of converting waste materials into re-useable goods, so as to reduce the rapid growth of waste and minimize the use of new raw materials and in turn control air, water, soil and other types of pollution. This process is based on the three R's namely re-use, re-cycle and reduce. This book consists of contributions made by international experts. It provides significant information of this discipline to help develop a good understanding of this area and related topics. It will help the readers in keeping pace with the rapid changes in this field. This book is appropriate for students seeking detailed information in this area as well as for engineers, researchers and professionals associated with materials recycling at various levels.



# Materials Science



Materials Science

**Lindy Bowman**

ISBN: 978-1-63238-017-3

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Materials Science

**Ricky Peyret**

ISBN: 978-1-63238-022-7

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Book Size: 8.5"x11"

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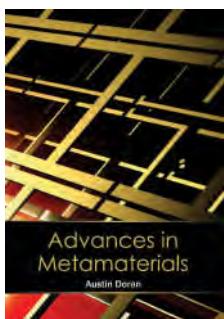
Hardback

## Advanced Nanofabrication Procedures and Applications

Nanofabrication is a broad field of study. Nanotechnology has witnessed a rapid expansion in the past few years, mainly owing to the speedy development in nanofabrication methods employed to manufacture nano-devices. Nanofabrication can be divided into two portions: methods using chemical combination and methods using nanolithography. This book contains various chapters and aims to offer the essential and current developments of nanolithography. It covers various aspects related to electron and ion beam, nanoimprint, interference, two-photon, UV and X-ray lithography. Most chapters analyze the lithographic procedures available for researchers and experts. This book covers the subject thoroughly and will be beneficial for its readers.

## Advanced Theory and Principles of Materials

This book provides an in-depth knowledge of material sciences. It studies the basic structure, application, production, formation, and modifications of some of the materials that are very useful in different sectors of engineering and sciences. This book is a guide for engineering students, as well as physicists or researchers who specialize in materials but who, nevertheless, wish to be aware of recent developments in this discipline. This book documents the current advances and researches in this field and aims to facilitate the growth of this discipline.



Materials Science

**Austin Doran**

ISBN: 978-1-63238-034-0

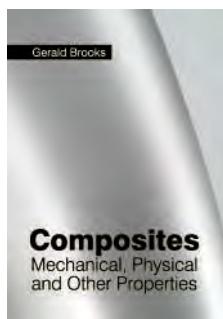
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Materials Science

**Gerald Brooks**

ISBN: 978-1-63238-086-9

\$125.00 US

Year 2015

Book Size: 6"x9"

270pp./Colored

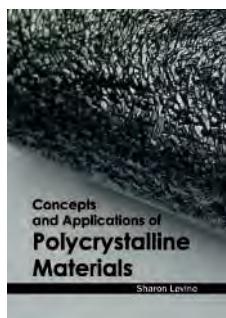
Hardback

## Advances in Metamaterials

This book consists of an analysis of the theory, properties and the technological applications of metamaterials for the development of new devices like invisibility cloaks, absorbers and concentrators of EM waves, etc. For developing a new device, it is important to know the electrodynamic features of the metamaterial according to which the device is created. The electromagnetic metamaterials affect EM waves and regulate the surrounding electromagnetic field by changing their permeability characteristics. It is this feature which enables the creation of electromagnetic wave scattering surfaces which utilize metamaterials. This book discusses various aspects related to metamaterials and will be beneficial for both students and experts interested in this field.

## Composites: Mechanical, Physical and Other Properties

Composite materials can be utilized in various industries such as aerospace and construction industries as they are a class of materials which possess some unique and extraordinary properties. Recently, composites have received a lot of attention due to their role in the field of material research and also because of the advent of new forms of composites such as nanocomposites and bio-medical composites. This book primarily deals with the production and property classification of various composites. It covers two broad sections: Mechanical and Physical Properties of Composites, and Metal and Ceramic Matrix Composites.



## Materials Science

**Sharon Levine**

ISBN: 978-1-63238-093-7

\$95.00 US

Year 2015

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## Materials Science

**Rich Falcon**

ISBN: 978-1-63238-109-5

\$160.00 US

Year 2015

Book Size: 6"x9"

436pp./Colored

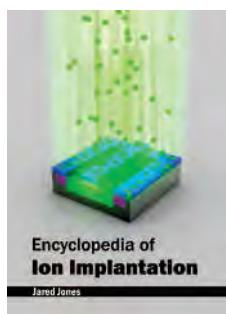
Hardback

## Concepts and Applications of Polycrystalline Materials

This book discusses recent researches conducted in plastic deformation, methods of synthesis, strength and grain-scale approaches, structures, properties and application of polycrystalline materials. It will be beneficial for graduate and post graduate students and scientists interested in the field of polycrystalline materials.

## Current Developments in Nanowires

Structures having diameter of the orders of nanometers are referred as nanostructures. Significant amount of research has been carried out on single dimensional nanoscale structures like nanowires. Miniature sizes bring exclusive properties to nanowires because of quantum captivity. Large surface-to-volume ratios enable high sensitivity to surface effects in nanowires. The distinctive geometrical benefits and properties assist the utilization of nanowires in nanoelectronics. This book is an attempt to provide an advanced assessment of the various uses of different nanowires and related progress in creation and properties characterization. It comprises of discourses on recent developments in metal oxide nanowires, silicon nanowires, carbon based nanotubes and nanowires.



## Materials Science

**Jared Jones**

ISBN: 978-1-63238-140-8

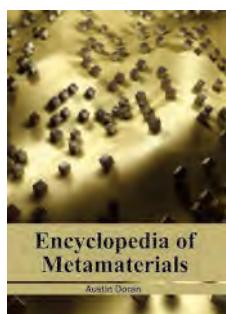
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448pp./Colored

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## Materials Science

**Austin Doran**

ISBN: 978-1-63238-144-6

\$154.99 US

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Book Size: 6"x9"

383pp./Colored

Hardback

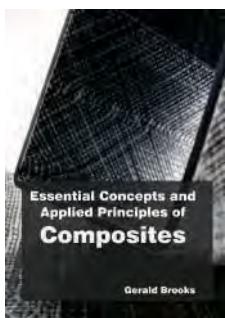
## Encyclopedia of Ion Implantation

This book examines the constantly transforming technology of ion implantation. Ion implantation is an advancing field, owing to the recognition of its several commercial undertakings. Enhancements in equipment, comprehension of beam-solid interplays, applications to novel materials, optimized characterization strategies and more current advancements to employ implantation of nanostructure formation point to novel directions for ion implantation are described in this all-inclusive book.

## Encyclopedia of Metamaterials

This book consists of an intensive analysis of the theory, properties and the technological applications of metamaterials for the development of new devices like invisibility cloaks, absorbers and concentrators of EM waves, etc. The electromagnetic metamaterials affect EM waves and regulate the surrounding electromagnetic field by changing their permeability characteristics. It is this feature which enables the creation of electromagnetic wave scattering surfaces which utilize metamaterials. This book discusses various aspects related to metamaterials and will be beneficial for both students and experts interested in this field.

# Materials Science



## Materials Science

### Gerald Brooks

ISBN: 978-1-63238-181-1

\$160.00 US

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## Materials Science

### Heather Dale

ISBN: 978-1-63238-187-3

\$154.99 US

Year 2015

Book Size: 8.5"x11"

220pp./Colored

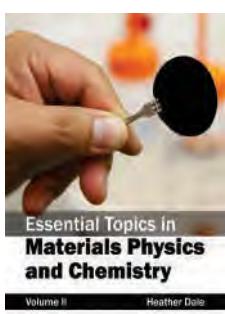
Hardback

## Essential Concepts and Applied Principles of Composites

This all-inclusive book discusses the essential concepts and applied principles of composites. Composites are a class of materials which possess some unique and extraordinary properties. They have received a lot of attention recently due to their role in the field of material research and also because of the advent of new forms of composites such as nanocomposites and bio-medical composites. Composite materials can be utilized in various industries such as aerospace and construction industries. This book discusses the properties of various composites and their potential applications. It will be useful as a reference for students and researchers studying this field.

## Essential Topics in Materials Physics and Chemistry: Volume I

This book is an effort to bring together data on the various researches going on at present around the world in the fields of materials physics and chemistry. A discussion on the various methods of research as well as a glance at the opportunities this field has to offer is provided. The book will be particularly helpful to those who are students or experts of physical sciences or just have an urge to acquire a deeper understanding of the physical world.



## Materials Science

### Heather Dale

ISBN: 978-1-63238-188-0

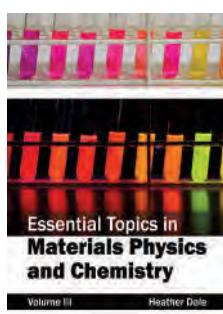
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## Materials Science

### Heather Dale

ISBN: 978-1-63238-189-7

\$154.99 US

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215pp./Colored

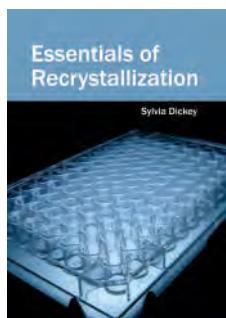
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## Essential Topics in Materials Physics and Chemistry: Volume II

This book is an effort to bring together data on the various researches going on at present around the world in the fields of materials physics and chemistry. A discussion on the various methods of research as well as a glance at the opportunities this field has to offer is provided. The book will be particularly helpful to those who are students or experts of physical sciences or just have an urge to acquire a deeper understanding of the physical world.

## Essential Topics in Materials Physics and Chemistry: Volume III

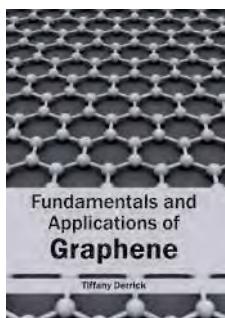
This book is an effort to bring together data on the various researches going on at present around the world in the fields of materials physics and chemistry. A discussion on the various methods of research as well as a glance at the opportunities this field has to offer is provided. The book will be particularly helpful to those who are students or experts of physical sciences or just have an urge to acquire a deeper understanding of the physical world.



## Materials Science

**Sylvia Dickey**

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 \$110.00 US  
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 Book Size: 6"x9"  
 231pp./Colored  
 Hardback



## Materials Science

**Tiffany Derrick**

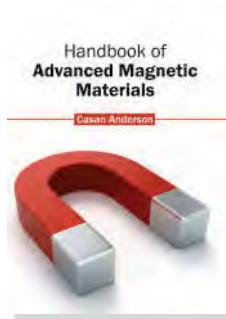
ISBN: 978-1-63238-208-5  
 \$125.00 US  
 Year 2015  
 Book Size: 6"x9"  
 269pp./Colored  
 Hardback

## Essentials of Recrystallization

Recrystallization is a substantial process in geology and metallurgical science. This book discusses recent researches and techniques introduced in various fields where recrystallization is considered as an essential process. With the advancements in technologies like TEM, spectrometers, etc., it is becoming convenient to produce better and accurate results. This book sheds light on approaches like improving properties of alloys, using new sophisticated devices to image grains and studying the problems of recrystallization in frozen aqueous solutions. This book will be helpful for scientists and students interested in learning more about recrystallization.

## Fundamentals and Applications of Graphene

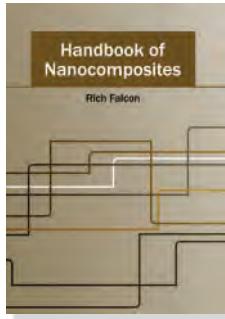
The various fundamentals as well as applications of graphene are discussed in this all-inclusive book. It is a compilation of novel advances in research on graphene from both experimental as well as theoretical aspects in a variety of topics, like graphene quantum dots, resistive switching memory based on graphene, and graphene nanoribbons. The authors of the book have provided distinct insights regarding the various intense research areas associated with this field. This book will appeal to a wide spectrum of readers including students as well as researchers with background in chemistry, physics, and materials.



## Materials Science

**Casan Anderson**

ISBN: 978-1-63238-218-4  
 \$110.00 US  
 Year 2015  
 Book Size: 6"x9"  
 241pp./Colored  
 Hardback



## Materials Science

**Rich Falcon**

ISBN: 978-1-63238-257-3  
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 Book Size: 6"x9"  
 264pp./Colored  
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## Handbook of Advanced Magnetic Materials

This book focuses on advanced magnetics materials. It brings forth the novel developments in latest technologies, modern characterization approaches, theory and usage of advanced magnetics materials. It talks about a wide spectrum of topics: technology and characterization of fast quenching nanowires for information technology; fabrication and characteristics of hexagonal ferrite films for microwave communication; surface reconstruction of magnetite for spintronics; synthesis of multiferroic composites for new biomedical uses, optimization of electroplated inductors for microelectronic devices; theory of magnetism of Fe-Al alloys; and two developed analytical methods for modeling of magnetic materials with the help of Everett integral and the inverse problem approach. This book concentrates on a varied group of readers with common background in physics or materials science, but it can also help specialists in the field of magnetic materials.

## Handbook of Nanocomposites

This book brings forth the experiences of experts from different scientific spheres across the world on their encounters with various aspects of nanocomposite science and its uses. The readers will be able to refer to research studies in the field of nanocomposites dealing with fundamental concepts and salient features of various nanocomposites like polymer/clay and polymer/carbon nanocomposites, composites of cellulose and metal nanoparticles and other kinds of nanocomposites. This handbook of nanocomposites will be a valuable reference for those interested in the field.

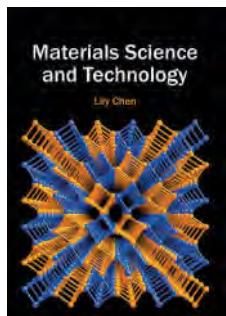
# Materials Science



## Materials Science

### Ricky Peyret

ISBN: 978-1-63238-312-9  
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## Materials Science

### Lily Chen

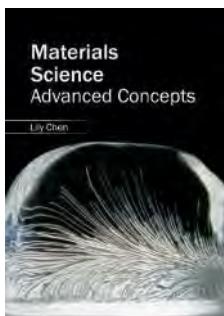
ISBN: 978-1-63238-313-6  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
337pp./Colored  
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## Materials Science and Engineering

Materials Science happens to be a relatively new field that pertains to the use of matter in various fields of science. It amalgamates principles of physics, chemistry and nanotechnology to look into molecular scales of materials and their macroscopic properties. Over time, this field has found wide applications in science and engineering, including forensic science. This book takes an in-depth look into the latest advancements in the field and should find relevance with students and experts who are working in the field of materials science.

## Materials Science and Technology

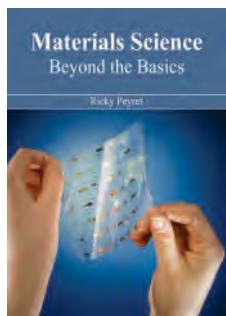
Materials can be highly beneficial to humans when their properties are manipulated according to specific requirements. Materials science is a wide field, and can be considered as an interdisciplinary area. It deals with the study of the structure and properties of materials, manipulation of the properties and creation of new forms of materials so as to suit specific applications. This book discusses various topics such as advanced materials and processing, biomaterials (i.e. preparation and modification of new types of biomaterial), nanomaterials and optical materials. Prominent experts from diverse areas of materials science have contributed to this book and it will be beneficial for readers from the field of physical science.



## Materials Science

### Lily Chen

ISBN: 978-1-63238-314-3  
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Hardback



## Materials Science

### Ricky Peyret

ISBN: 978-1-63238-315-0  
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## Materials Science: Advanced Concepts

Today, materials science is an emerging field of science. It is growing internationally, which is evident by the international and intercontinental collaborations and exchanges. This book aims at providing a comprehensive coverage of selected advanced topics in materials science. This book will serve the needs of researchers and practicing scientists and will prove helpful to students of chemical engineering.

## Materials Science: Beyond the Basics

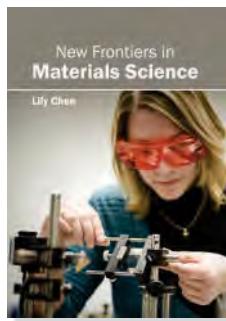
For a field as vast and diverse as materials science the avenues for research and development are immense. This book presents all current available research projects and methodologies that are going on in the field today. The various branches of materials sciences are discussed along with proposed technological advancements and their practical applications. Research scientists as well students of this discipline will find this book helpful in furthering their knowledge.



## Materials Science

**Lily Chen**

ISBN: 978-1-63238-325-9  
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Hardback



## Materials Science

**Lily Chen**

ISBN: 978-1-63238-346-4  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
361pp./Colored  
Hardback

## Micro-Nanoindentation in Materials Science

This book presents a detailed account on nanoindentation tests, which hold great significance in applied material science. Numerous spheres of science and industry have shown increasing interest in the field of nanotechnology. Over the past few decades, rapid advances have been made in micro-level experimental techniques that have transformed material science completely. It has now become possible to use the knowledge of building blocks and microstructure alterations at nanoscale for design and creation of new materials. There has been a growing interest across various spheres of research and application towards the utilization of micro-level mechanical testing technique of nanoindentation. Currently, a vast gamut of fields like engineering, electronics and composites, and biomechanics can be tested through this technique. This book is an attempt to present an elaborate account on the lesser known aspects of micro-indentation and provide readers with a brief overview on current discoveries in nanoindentation. The readers of this text will benefit from the various subjects dealt with in this book and it will serve as a useful source of reference on the study of nanoindentation.

## New Frontiers in Materials Science

Today, materials science is an emerging field of science. It is growing internationally, which is evident by the international and intercontinental collaborations and exchanges. This book aims at providing a comprehensive coverage of selected advanced topics in materials science. It also presents latest developments that have come up in the wake of researches going on. This book will serve the needs of researchers and practicing scientists and will prove helpful to students of chemical engineering.



## Materials Science

**Ian Ferrer**

ISBN: 978-1-63238-358-7  
\$95.00 US  
Year 2015  
Book Size: 6"x9"  
174pp./Colored  
Hardback



## Materials Science

**Gerald Brooks**

ISBN: 978-1-63238-378-5  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
256pp./Colored  
Hardback

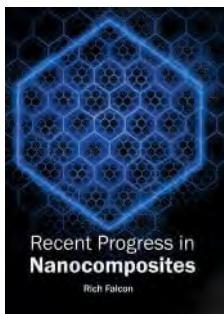
## Piezoelectric Materials and Devices

This book compiles original and new research studies conducted by various international experts and scientists working in diverse fields of piezoelectric materials and devices. It provides information about various applications of piezoelectric materials such as active and passive health monitors, pressure sensors, machining process, acoustic wave velocity measurements, among others. This book will be beneficial for researchers, professionals, academicians and students interested in gathering current information related to this field.

## Prominent Properties of Composites

Composites are a class of materials which possess some unique and extraordinary properties. They have received a lot of attention recently due to their role in the field of material research and also because of the advent of new forms of composites such as nanocomposites and bio-medical composites. Composite materials can be utilized in various industries such as aerospace and construction industries. This book primarily deals with the production and property classification of various composites. It covers nanocomposites, damages and fractures-theoretical and numerical modelling, and composites - physical features, designing, processing and manufacturing methods.

# Materials Science



## Materials Science

**Rich Falcon**

ISBN: 978-1-63238-397-6

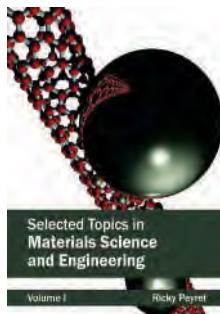
\$125.00 US

Year 2015

Book Size: 6"x9"

255pp./Colored

Hardback



## Materials Science

**Ricky Peyret**

ISBN: 978-1-63238-410-2

\$154.99 US

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Book Size: 8.5"x11"

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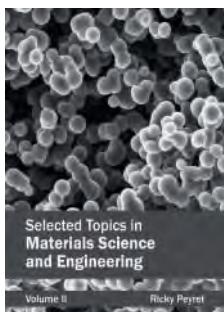
Hardback

## Recent Progress in Nanocomposites

This book brings forth the experiences of experts from different scientific spheres across the world on their encounters with various aspects of nanocomposite science and its uses. It documents latest findings and advancements in nanocomposites through study and research. The book elucidates the applications of nanocomposites in water treatment, super capacitors, anticorrosive and antistatic applications, and other such applications. It also sheds light on multipurpose nanocomposites, photonics of dielectric nanostructures and electron scattering in nanocomposite materials.

## Selected Topics in Materials Science and Engineering: Volume I

Materials science is a rapidly advancing field. Discoveries in this area are bound to affect various aspects of civilization. This book attempts to understand the multiple branches and concepts that come under the field of materials science and engineering and how they can be useful in our lives. The various studies and researches that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



## Materials Science

**Ricky Peyret**

ISBN: 978-1-63238-411-9

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Book Size: 8.5"x11"

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## Materials Science

**Ricky Peyret**

ISBN: 978-1-63238-412-6

\$154.99 US

Year 2015

Book Size: 8.5"x11"

223pp./Colored

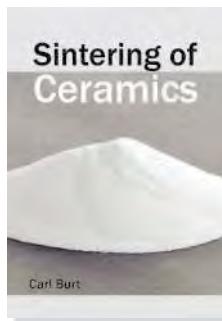
Hardback

## Selected Topics in Materials Science and Engineering: Volume II

Materials science is a rapidly advancing field. Discoveries in this area are bound to affect various aspects of civilization. This book attempts to understand the multiple branches and concepts that come under the field of materials science and engineering and how they can be useful in our lives. The various studies and researches that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be greatly assisted by this book.

## Selected Topics in Materials Science and Engineering: Volume III

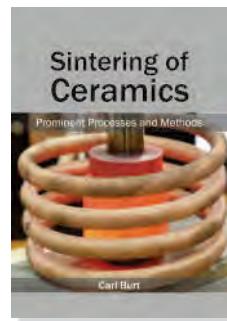
Materials science is a rapidly advancing field. Discoveries in this area are bound to affect various aspects of civilization. This book attempts to understand the multiple branches and concepts that come under the field of materials science and engineering and how they can be useful in our lives. The various studies and researches that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



## Materials Science

**Carl Burt**

ISBN: 978-1-63238-415-7  
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## Materials Science

**Carl Burt**

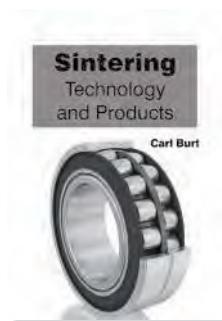
ISBN: 978-1-63238-416-4  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
413pp./Colored  
Hardback

## Sintering of Ceramics

The process of sintering involves forming solid mass of material by applying heat/pressure without reaching the point of liquefaction. This book covers latest techniques and methods introduced in the field of sintering with special focus on the applications of sintering for formation of ceramics. It is a compilation of the research works conducted by reputed experts in this field. Major topics related to sintering of ceramics such as conventional sintering, superconducting ceramics, dielectrics and opto-electronic materials have been discussed in detail.

## Sintering of Ceramics: Prominent Processes and Methods

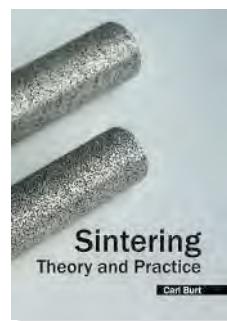
The process of sintering involves forming solid mass of material by applying heat/pressure without reaching the point of liquefaction. This book covers latest techniques and methods introduced in the field of sintering with special focus on the applications of sintering for formation of ceramics. It is a compilation of the research works conducted by reputed experts in this field. Major topics related to sintering of ceramics have been covered such as new sintering techniques, bio-ceramics, glass ceramics/composites, and impregnation of doping materials. Some upgraded sintering techniques like radiation thermal sintering for making thin film solid oxide cells have also been explained.



## Materials Science

**Carl Burt**

ISBN: 978-1-63238-417-1  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
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## Materials Science

**Carl Burt**

ISBN: 978-1-63238-418-8  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
348pp./Colored  
Hardback

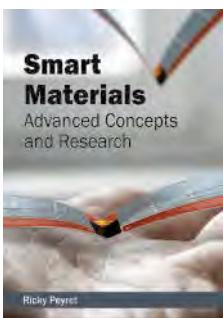
## Sintering: Technology and Products

Sintering is an intricate phenomenon, commonly defined as the process of producing an object from fines or powders. This process is considered to be complex since it involves heterogeneous material systems, and extreme diversity in temperature and physical state. Sintering has numerous dimensions to research upon, since it requires a broad spectrum of knowledge varying from thermodynamics to fluid dynamics, from solid state physics to kinetics of chemical reactions. Sintering being a material processing method, utilizes various technologies to produce distinct products. This book brings together researches from various domains of sintering into a single reference source. It will be helpful for researchers, scientists and students interested in this field.

## Sintering: Theory and Practice

Ceramics fabrication includes sintering at its concluding stage to strengthen the material. In the book, the fabrication of electronic ceramics and glass ceramics are discussed. Special emphasis has been given to their dielectric properties. It also explores the sintering aspects of ceramic tiles and nano-alumina. Sintering of non-oxide ceramics has also been elucidated. The sintering of titanium alloys, copper containing structures and sintering in the genre of extractive metallurgy is also explained in this book. It also discusses the fundamentals of sintering like viscous flow and spark plasma. This book will be beneficial for readers interested in this field.

# Materials Science



## Materials Science

### Ricky Peyret

ISBN: 978-1-63238-420-1

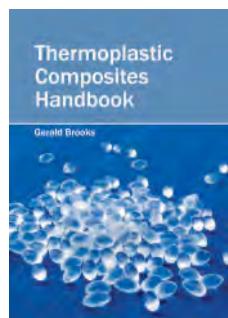
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## Materials Science

### Gerald Brooks

ISBN: 978-1-63238-452-2

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Book Size: 6"x9"

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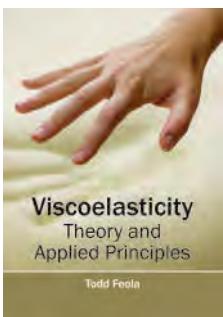
Hardback

## Smart Materials: Advanced Concepts and Research

This book is an attempt to understand the world of smart materials. The research and exploration that is currently going on in the field of smart materials is essential in our economic arena as newer and more efficient materials are increasingly in demand. The applications and ramifications of such research are discussed in detail. The future opportunities for someone interested in the development of smart materials are also glanced at. Researchers and prospective students will find this book helpful in their endeavours.

## Thermoplastic Composites Handbook

The aim of this book is to provide comprehensive information regarding thermoplastic composites. Composite materials require a combination of properties such as high thermal and oxidation stability, solvent resistance, toughness and low dielectric constant. This book consists of a comprehensive overview of the various aspects of composite materials. It discusses their classification, properties and manufacturing techniques. This book will be useful for scientists and engineers dealing with these forms of materials.



## Materials Science

### Todd Feola

ISBN: 978-1-63238-462-1

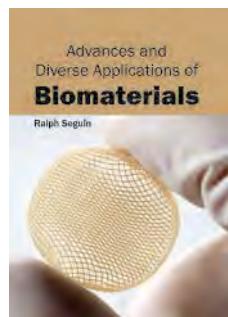
\$154.99 US

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## Biomaterials

### Ralph Seguin

ISBN: 978-1-63238-028-9

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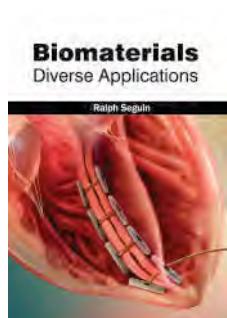
Hardback

## Viscoelasticity: Theory and Applied Principles

This book contains research conducted by various experts in the field of viscoelasticity. Viscoelasticity is basically defined as the property of a substance of exhibiting both elastic as well as viscous behavior. It discusses rheology, non-Newtonian fluid mechanics and viscoelasticity related topics, and hence will fulfill the requirements of academicians, researchers and scientists. The book elucidates various topics associated with viscoelasticity such as theory, simulations, biological materials, food products, among others.

## Advances and Diverse Applications of Biomaterials

This book compiles reviews and original researches conducted by experts and scientists working in the field of biomaterials, covering a broad range of topics, from design to new applications. It offers readers the potentials of distinct synthetic and engineered biomaterials. This book elucidates different features of biomaterials and studies techniques used to produce biomaterials with the specific properties required for certain clinical and medical functions. It covers various topics like latest methods for characterization and evaluation of new materials, traditional applications in nanotechnology and tissue engineering, and new applications of these products. This book will be helpful for readers interested in this field.



## Biomaterials

**Biomaterials**  
Diverse Applications

Ralph Seguin

ISBN: 978-1-63238-063-0

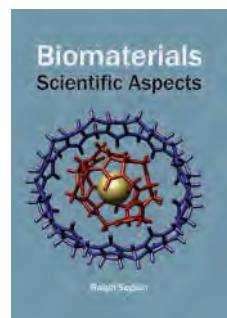
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## Biomaterials

**Ralph Seguin**

ISBN: 978-1-63238-064-7

\$110.00 US

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Book Size: 6"x9"

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Hardback

## Biomaterials: Diverse Applications

This book is a collection of reviews and original researches by experts and scientists regarding the field of biomaterials, its development and applications. It offers readers the potentials of distinct synthetic and engineered biomaterials. This book gives a comprehensive summary of the applications of various biomaterials, along with the techniques required for designing, developing and characterizing these biomaterials without any intervention by any industrial source. The researches and reviews focus on the functions of novel and familiar macromolecular compounds in nanotechnology and nanomedicine. The book also elucidates the chemical and mechanical modeling of these compounds so as to serve biomedical needs.

## Biomaterials: Scientific Aspects

This book consists of reviews and original researches conducted by experts and scientists working in the field of biomaterials, its development and applications. It offers readers with the potentials of distinct synthetic and engineered biomaterials. This book gives a comprehensive summary of the applications of various biomaterials, along with the techniques required for designing, developing and classifying these biomaterials without any intervention by any industrial source. The book deals with latest researches on new and known materials and gives special attention to their physical, chemical and mechanical characteristics, and also discusses biocompatibility and histopathological studies. It also elucidates the various techniques used to produce biomaterials with the required physical and biological features for medical and clinical applications.



## Biomaterials

**Ralph Seguin**

ISBN: 978-1-63238-110-1

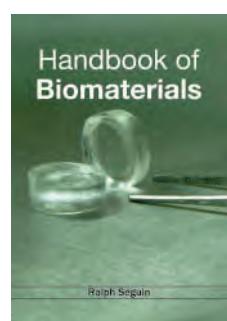
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## Biomaterials

**Ralph Seguin**

ISBN: 978-1-63238-229-0

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301pp./Colored

Hardback

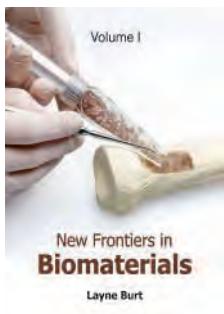
## Current Progress in Biomaterials

This book compiles reviews and original researches conducted by experts and scientists working in the field of biomaterials, covering a broad range from design to new applications. This book elucidates different features of biomaterials and examines techniques used to produce biomaterials with the specific properties required for certain clinical and medical functions. It covers various topics like latest methods for characterization and evaluation of new materials, traditional applications in nanotechnology and tissue engineering, and new applications of these products.

## Handbook of Biomaterials

This book consists of reviews and original researches conducted by experts and scientists working in the field of biomaterials, its development and applications. It offers readers the potentials of distinct synthetic and engineered biomaterials. This book gives a comprehensive summary of the applications of various biomaterials, along with the techniques required for designing, developing and classifying these biomaterials without any intervention by any industrial source. It also elucidates the various techniques used to produce biomaterials with the required physical and biological features for medical and clinical applications.

# Materials Science



## Biomaterials

**Layne Burt**

ISBN: 978-1-63238-344-0

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Book Size: 8.5"x11"

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## Biomaterials

**Layne Burt**

ISBN: 978-1-63238-345-7

\$154.99 US

Year 2015

Book Size: 8.5"x11"

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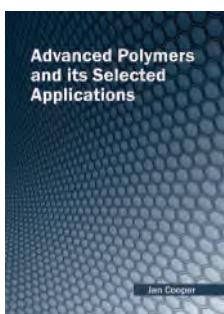
Hardback

## New Frontiers in Biomaterials: Volume I

The science of biomaterials is approximately half a century old and deals with any matter or surface that interacts with various biological processes and systems. Over the years, it has expanded and evolved to broaden its horizons. It includes other branches like medicine, biology, chemistry, tissue engineering and materials science in parts. This book brings forth the development in this field of study, keeping a close watch on the advancements made in the field of biomaterials. The book sheds light on the work done in the field by various experts and also discusses their views and findings to help those who are looking at taking this field a step further.

## New Frontiers in Biomaterials: Volume II

The science of biomaterials is approximately half a century old and deals with any matter or surface that interacts with various biological processes and systems. Over the years, it has expanded and evolved to broaden its horizons. It includes other branches like medicine, biology, chemistry, tissue engineering and materials science in parts. This book brings forth the development in this field of study, keeping a close watch on the advancements made in the field of biomaterials. The book sheds light on the work done in the field by various experts and also discusses their views and findings to help those who are looking at taking this field a step further.



## Polymers

**Jan Cooper**

ISBN: 978-1-63238-018-0

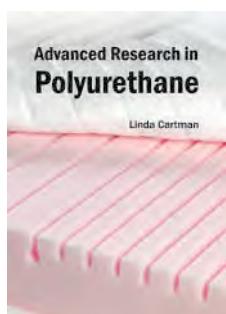
\$154.99 US

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Book Size: 6"x9"

368pp./Colored

Hardback



## Polymers

**Linda Cartman**

ISBN: 978-1-63238-019-7

\$95.00 US

Year 2015

Book Size: 6"x9"

195pp./Colored

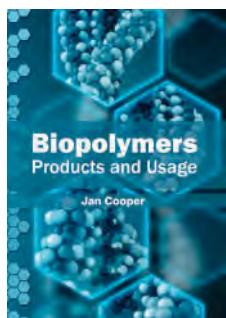
Hardback

## Advanced Polymers and its Selected Applications

The advanced polymers along with its selected applications are comprehensively illustrated in this extensive book. This book is a compilation of contributions by reputed authors from across the globe engaged in various fields of polymer physics. It encompasses various topics like applications of conducting polymers; thin film polymers; photopolymers for holographic media; hydrogel films on optical fiber core; microwave absorption and EMI shielding behavior of nanocomposites based on naturally conducting polymers and graphene as well as carbon nanotubes; electro reductive polymerization; nitrogen-rich and radiation cross-linking poly(urethane-imide) polymers as applicants for energetic applications; development of ruthenium complexes to new functional nanocomposites, etc. The motive of this book is to inspire readers in pursuing research and study in this extensive field.

## Advanced Research in Polyurethane

This book is a compilation of interesting work on Polyurethane. It talks about the properties, characterization, and structures of polyurethane as well as provides information regarding Bio-based PU, including the R&D in these areas. The topics introduce the readers to the known as well as unknown applications of PU, like PU for fuel binding, alkanolamide PU coatings and foams, extraction of metals, and others. It aims to serve a wider audience including readers from the fields of industrial chemistry, polymer chemistry and materials chemistry.



## Polymers

### **Jan Cooper**

ISBN: 978-1-63238-066-1

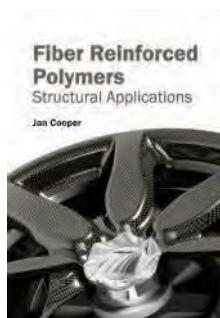
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Book Size: 6"x9"

232pp./Colored

Hardback



## Polymers

### **Jan Cooper**

ISBN: 978-1-63238-196-5

\$110.00 US

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Book Size: 6"x9"

236pp./Colored

Hardback

## **Biopolymers: Products and Usage**

Biopolymers are referred to as polymeric substances which occur in living organisms. It comes as a surprise that biopolymers are in no way new to this world. It is primarily due to our fascination with petrochemical products that these amazing materials have been overlooked for such a long time. However, today we face a different challenge. Environmental challenges are pushing away from synthetic or petro-chemically formulated products, whereas economic factors are pulling back from usually more costly "green" alternatives. This book introduces two characteristics of biopolymers; potential products and their few important applications elucidating the present significance of biopolymers.



## Polymers

### **Jan Cooper**

ISBN: 978-1-63238-289-4

\$125.00 US

Year 2015

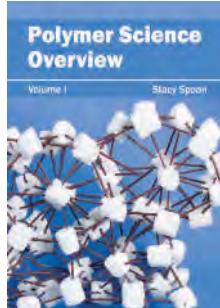
Book Size: 6"x9"

256pp./Colored

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## **Fiber Reinforced Polymers: Structural Applications**

The structural applications of fiber reinforced polymers are described in this elaborative book. Fiber reinforced polymers are an extremely significant and widely utilized form of material. These materials exist primarily due to the emphasis given to petrochemical and non-petrochemical products. These polymers are economical and more widely used as compared to natural polymers. The field of fiber reinforced polymers is an evolving and growing field of research due to its special properties and traditional and modern applications. This book discusses the improvement in environmental aspects, important areas of research and potentials of fiber reinforced polymers in civil construction and concrete repair.



## Polymers

### **Stacy Spoon**

ISBN: 978-1-63238-362-4

\$154.99 US

Year 2015

Book Size: 8.5"x11"

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## **Polymer Science Overview: Volume I**

Polymer science, with its ever emerging importance and never ending problems was the foundation for the compilation of this book. Each chapter in this book contains significant conceptual knowledge of the subject. While a few chapters focus on existing knowledge of some key concepts, the others are highly scientific, and include technical issues of polymer production and synthesis. This book aims to cater to a wide variety of readers, ranging from students to scientists.

## **High Performance Polymers**

This is a comprehensive book based on the chemistry as well as applications of high performance polymers. The properties of polyimides and heterocyclic polymers are well-known and they are utilized for long period temperature endurance ranging from 250 - 350°C. This book discusses synthesis, techniques, physicochemical properties, processing and applications of such polymers in advanced technologies. This book compiles original researches conducted by experts and covers all the disciplines related to this field and provides a comprehensive overview to the subject.

# Materials Science



## Polymers

### **Stacy Spoon**

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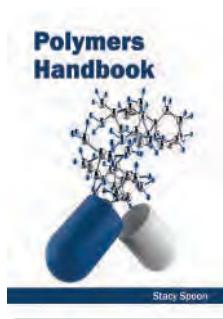
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## Polymers

### **Stacy Spoon**

ISBN: 978-1-63238-365-5

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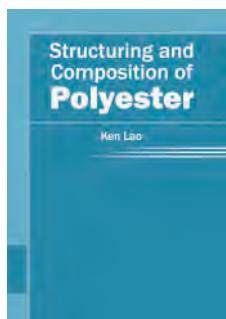
Hardback

## Polymer Science Overview: Volume II

Polymer science, with its ever emerging importance and never ending problems was the foundation for the compilation of this book. Each chapter in this book contains significant conceptual knowledge of the subject. While a few chapters focus on existing knowledge of some key concepts, the others are highly scientific, and include technical issues of polymer production and synthesis. This book aims to cater to a wide variety of readers, ranging from students to scientists.

## Polymers Handbook

This is a comprehensive book which discusses different types of polymers and their applications, uses, production, chemical characterization, impact on environment across the globe. The approach of this book is such that it presents studies that bridge the gap between the past and recent studies. Topics on the future of polymer science have also been covered in this book. Intense researches have been contributed by internationally renowned and experienced researchers. From experts to students and engineers, we assure that this book proves valuable across all sections of readers.



## Polymers

### **Ken Lao**

ISBN: 978-1-63238-428-7

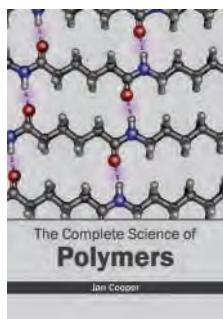
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Hardback



## Polymers

### **Jan Cooper**

ISBN: 978-1-63238-437-9

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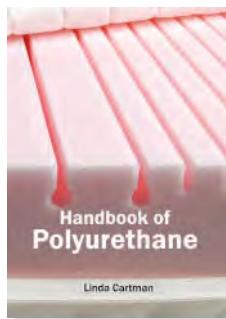
Hardback

## Structuring and Composition of Polyester

This book primarily focuses on the structuring and composition of polyesters. Polyesters are being broadly applied in distinct fields because of their extraordinary characteristics. This book encompasses important aspects like characterization, applications and synthesis of polyester. Biological and chemical techniques for the synthesis of polyester are one of the most significant topics of research that have been added in this book. Physical, mechanical and chemical characterizations as well as enhancement of polyester have also been discussed in this book. Few aspects of applications of polyester in coating of aluminum alloys employed in aircraft, immobilization of radioactive wastes, formation of the novel composites and fabrics manufacturing have also been discussed, emphasizing on the extensive possibilities of its implementations. The aim of this book is to serve as a good source of reference for researchers, students and scientists as well as for other veterans, both in industry and academia.

## The Complete Science of Polymers

This book encompasses information regarding the complete science of polymers. Over the past ten to fifteen years, advancements in polymer science have attracted attention and witnessed significant changes. From a rather specialized subject limited to engineers engaged and interested in some specific fields, polymer science has transformed into a general discipline which provides the base for several sub-specialties. This book comprehensively treats various aspects of the subject of polymer science. Several books have presented distinct types of polymers with great accuracy and excellence and at comparatively high levels of abstraction, but none of them is complementary. A position halfway between the older, conventional approach in engineering and the current, and to some extent, formal expositions seems to be evolving. This book aims to present a descriptive account on this new emerging mediated approach in the field of polymer science for the benefit of a wide variety of readers including theorists, practitioners, researchers and students.



## Polyurethane

**Linda Cartman**

ISBN: 978-1-63238-268-9

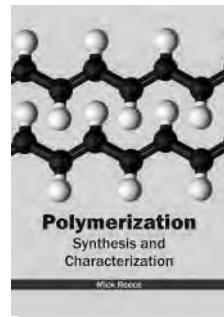
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## Polymerization

**Mick Reece**

ISBN: 978-1-63238-364-8

\$160.00 US

Year 2015

Book Size: 6"x9"

441pp./Colored

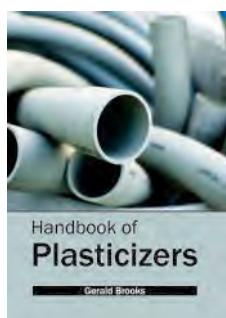
Hardback

## Handbook of Polyurethane

This book is a compilation of interesting work on Polyurethane. It talks about the applications and structures of polyurethane. The book covers a number of topics introducing the readers to the known as well as unknown applications of PU, like PU for treatment of industry wastewater, grouting technologies, urological practice and others. It aims to serve a wider audience including readers from industrial chemistry, polymer chemistry and materials chemistry.

## Polymerization: Synthesis and Characterization

Polymerization science has evolved to acquire a position of great significance in various fields including manufacturing sciences, biology, pharmaceuticals etc. This book contains contributions from number of authors engaged in the field of polymerization. The topics included are polymer characterization by atomic force microscopy of the polymer network structure generated in Ferroelectric Liquid Crystals Cells; polymerization of olefins; ring opening polymerization; polymerization by microwave irradiation technique of acrylamide/starch/acrylic acid; cationic polymerization of vinyl monomers; plant cell wall polymers; block and graft copolymerization by living/controlled polymerization; emulsion polymerization; rheology of biomaterials; polyADP-Ribosylation in post-fertilization and genome reprogramming; and fabrication of doped microstructures by two-photon polymerization. The aim of this book is to serve as a valuable source of reference and inspire readers to pursue research and in-depth study in this field.



## Plasticizers

**Gerald Brooks**

ISBN: 978-1-63238-266-5

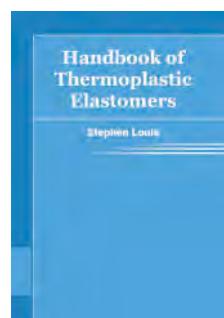
\$110.00 US

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## Elastomers

**Stephen Louis**

ISBN: 978-1-63238-282-5

\$160.00 US

Year 2015

Book Size: 6"x9"

430pp./Colored

Hardback

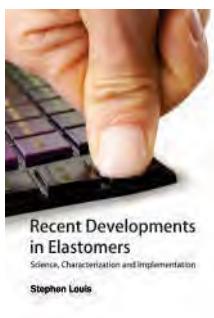
## Handbook of Plasticizers

Plasticizers are substances used for the purpose of reduction of brittleness in synthetic resins and production or promotion of plasticity as well as flexibility. They enhance the ability, elasticity and sturdiness of the substance and cut down the cost in many situations. This book presents a comprehensive summary of various aspects of plasticizers. It also discusses the various applications of different types of plasticizers, inclusive of those that are based upon non-toxic and highly effective pyrrolidones, and a novel source of collagen based bio-plasticizers that can be attained from discarded materials from a natural source. The book also talks about the functions of plasticizers in ion selective electrode sensor, plastics and other areas. It will serve as a significant reference for college students, researchers and scientists, engineers and also, industrialists working in polymer, pharmaceutical and environmental industries.

## Handbook of Thermoplastic Elastomers

Thermoplastics are recognized for their property of elasticity. Thermoplastics can be utilized for various functions, ranging from household materials to the aeronautic sector. This book compiles researches written by experts and scientists working in the field of physical and chemical modifications of thermoplastics and thermoplastic starch. It provides a detailed account of various topics related to thermoplastics and also presents the latest developments made in this field. This book will be beneficial for specialists working in the field of electronics, food, telecommunication devices and plastic industries.

# Materials Science



## Elastomers

### Stephen Louis

ISBN: 978-1-63238-388-4

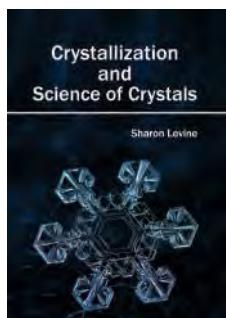
\$160.00 US

Year 2015

Book Size: 6"x9"

412pp./Colored

Hardback



## Inorganic Chemistry

### Sharon Levine

ISBN: 978-1-63238-103-3

\$145.00 US

Year 2015

Book Size: 6"x9"

340pp./Colored

Hardback

## Recent Developments in Elastomers: Science, Characterization and Implementation

An elastomer is a natural or synthetic polymer having elastic properties. This book offers a thorough insight of recent advances in the field of elastomers and their composites through contributions by internationally recognized specialists. The book describes latest synthesis, modelling and experimental methods in elastomers, and also discusses new means of crosslinking, liquid crystal elastomers, nanocomposites, smart elastomers, elastomers in microelectronics and microfluidics, elastomers in cement concrete and mortar, experimental testing and modelling. It also represents how enhancements in materials, processes and characterization techniques can boost performance in the area of engineering. It offers a distinct opportunity to find the latest research on elastomer advances from laboratories around the world. This book accosts to industrial and academic researchers in the fields of physical, chemical, biological sciences and engineering.



## Superconductors

### Jared Jones

ISBN: 978-1-63238-429-4

\$160.00 US

Year 2015

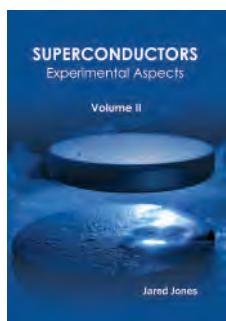
Book Size: 6"x9"

451pp./Colored

Hardback

## Crystallization and Science of Crystals

Crystal growth is a significant process through which a variety of natural phenomena and scientific developments are possible. The book supplies answers to the problems of molecular crystallization and highlights the advancements in pharmaceutical crystals. The chapters also discuss the concepts of biomimetic mineralization. This book is an advanced text in the field of crystallization. It aims to be a helpful tool for researchers and students across the globe.



## Superconductors

### Jared Jones

ISBN: 978-1-63238-430-0

\$110.00 US

Year 2015

Book Size: 6"x9"

207pp./Colored

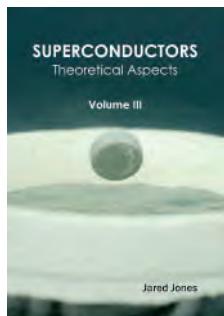
Hardback

## Superconductors: Features, Technology and Applied Principles Volume I

A superconductor is described as a substance capable of becoming superconducting at sufficiently low temperatures. This book provides an analysis of significant complications faced in the field of superconductors. It consists of information obtained through extensive research carried out by the contributing authors over a long period of time. The book elaborately elucidates the basic structural and electrical properties of superconductors along with methodologies for researching these properties. It efficiently encompasses the advanced technologies and concepts of superconductivity and is intended to target a wide spectrum of readers interested in studying about superconductors.

## Superconductors: Experimental Aspects Volume II

The science of superconductivity is expanding speedily and new inventions are possible in the near future. This book is a compilation of researches accomplished by experts dealing with a variety of experimental aspects of superconductivity such as NMR studies, X-Ray spectroscopy studies, magnetic texturing, superconducting magnet technology, etc. The authors have attempted to express their unique vision and give an insight into the examined area of research. With this book, we intend to help our readers in understanding the above stated topic in a better way.



## Superconductors

**Jared Jones**

ISBN: 978-1-63238-431-7

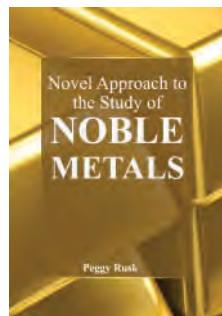
\$110.00 US

Year 2015

Book Size: 6"x9"

256pp./Colored

Hardback



## Noble Metals

**Peggy Rusk**

ISBN: 978-1-63238-351-8

\$160.00 US

Year 2015

Book Size: 6"x9"

431pp./Colored

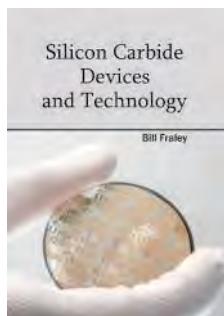
Hardback

## Superconductors: Theoretical Aspects Volume III

The science of superconductivity is expanding speedily and new inventions are possible in the near future. This book is a compilation of researches accomplished by experts dealing with a variety of theoretical aspects of superconductivity such as eilenberger approach, cooper pairing, theory of ferromagnetic, etc. The authors have attempted to express their unique vision and give an insight into the examined area of research. We intend to help our readers in understanding the above stated topic in a better way.

## Novel Approach to the Study of Noble Metals

This book aims to demystify noble metals. This book provides a wide spectrum of observations into the optical principle, resource, production, nanoscience and nanotechnology of noble metals. It also deals with the enhanced applications of noble metals in various fields. This book will be useful for scientific researchers and professionals interested in this field.



## Silicon Compounds

**Bill Fraley**

ISBN: 978-1-63238-414-0

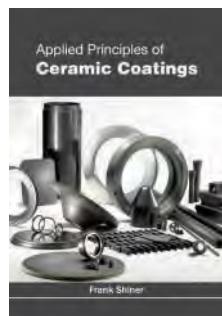
\$160.00 US

Year 2015

Book Size: 6"x9"

410pp./Colored

Hardback



## Ceramics

**Frank Shiner**

ISBN: 978-1-63238-054-8

\$125.00 US

Year 2015

Book Size: 6"x9"

298pp./Colored

Hardback

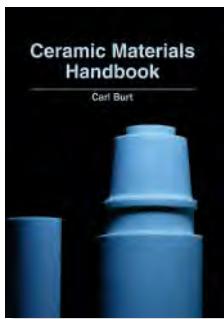
## Silicon Carbide Devices and Technology

This book elaborately discusses the silicon carbide devices and their technology. Lately, a few Silicon Carbide (SiC) power devices like metal-oxide-semiconductor field-effect-transistors (MOSFETs), Schottky-barrier diodes (SBDs), junction FETs (JFETs), and their combined modules have been introduced in the market. However, to securely supply them and decrease their cost, further enhancements for material characterizations as well as for device processing are still required. This book comprehensively elucidates current technologies on processing, modeling, characterization, manufacturing, and other important aspects of SiC devices. The aim of this book is to serve as a helpful source of information for advancements in SiC devices.

## Applied Principles of Ceramic Coatings

The objective of this book is to introduce the latest developments in the field of ceramic coating. It discusses topics regarding the functions of ceramic coating in engineering inclusive of fabrication, i.e. electrophoretic and physical deposition; and applications in turbine, engines, foundry, etc.

# Materials Science



## Ceramics

### Carl Burt

ISBN: 978-1-63238-073-9

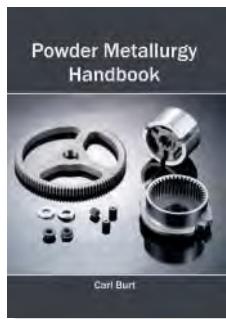
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240pp./Colored

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## Ceramics

### Carl Burt

ISBN: 978-1-63238-366-2

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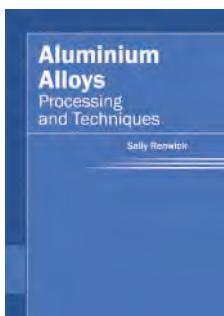
Hardback

## Ceramic Materials Handbook

This book discusses various aspects of ceramic materials, from basics to their industrial applications. Furthermore, the book covers their influence on latest technologies such as ceramic matrix composites, porous ceramics, sintering theory paradigm of modern ceramics, among others.

## Powder Metallurgy Handbook

This book provides the readers with all the major aspects of powder metallurgy in single binding compilation. From economic, environmental and performance based viewpoints, powder metallurgy process indicates significant advantages in production of components and parts because of their special compositions through elemental mixing and 3-D near net shape forming techniques. This method is applicable to not only metal products but also organic materials and ceramics, which are employed as electrical products as well as structural products. The authors have contributed extremely important and valuable research information in this book elucidating several properties and performance of Powder Metallurgy materials for their applications as actual components. Specifically, the life estimation of Powder Metallurgy ferrous materials by tribological performance assessment and sliding contact fatigue test of Powder Metallurgy semi-metallic materials have been focused and presented in this book.



## Alloys

### Sally Renwick

ISBN: 978-1-63238-045-6

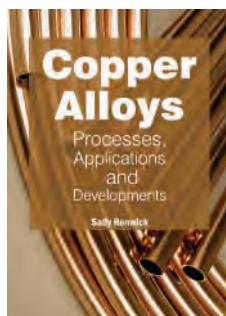
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326pp./Colored

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## Alloys

### Sally Renwick

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Book Size: 6"x9"

189pp./Colored

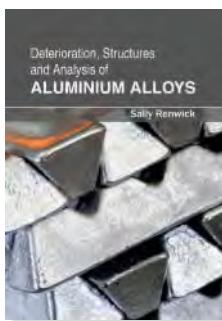
Hardback

## Aluminium Alloys: Processing and Techniques

Last few years have witnessed breakthrough in production of aluminium alloys. New procedures of welding, casting, forming and surface modification have emerged to advance structural integrity of aluminium alloys. This book aims to serve the needs of a broad spectrum of professionals ranging from academic to industrial communities by providing latest information. It also serves the purpose of assisting technocrats, entrepreneurs and other individuals interested in the application and production of aluminium alloys. It will also serve as a reference to teachers teaching at senior and graduate level to support their text.

## Copper Alloys: Processes, Applications and Developments

Copper has been used for various purposes through the ages. It is utilized excessively in handicrafts and other industries due to its easy to cast, highly ductile and non-corrosive properties. The simple FCC structure of copper makes it an ideal element for studying deformation mechanism in metals. The bulk consumption of copper in the industrial sector has led to the development of high performance and highly efficient copper alloys. This book provides an introduction to classification and casting, and also elucidates latest methods and techniques utilized to process copper alloys. It also focuses on the application of archaeometallurgical techniques to study ancient copper alloys. This book will be beneficial for students, engineers, scientists and professionals interested in learning more about copper alloys.



Alloys

**Sally Renwick**

ISBN: 978-1-63238-116-3

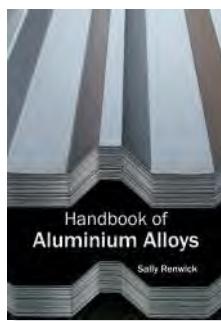
\$110.00 US

Year 2015

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Alloys

**Sally Renwick**

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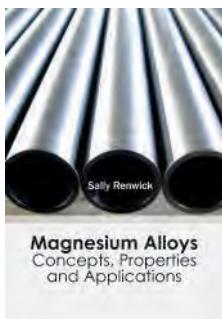
Book Size: 6"x9"

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Hardback

## Deterioration, Structures and Analysis of Aluminium Alloys

There has been a breakthrough in the production of aluminium alloys. New procedures of welding, casting, forming and surface modification have emerged to advance structural integrity of aluminium alloys. The book covers major topics grouped under two sections namely, "Corrosion and Mechanical Damage on Aluminium Alloys" and "Micro-Nano Structures and Image Analysis". This book aims to serve the needs of a broad spectrum of professionals ranging from academic to industrial communities by providing latest information. It also serves the purpose of assisting technocrats, entrepreneurs and other individuals interested in the application and production of aluminium alloys.



Alloys

**Sally Renwick**

ISBN: 978-1-63238-308-2

\$95.00 US

Year 2015

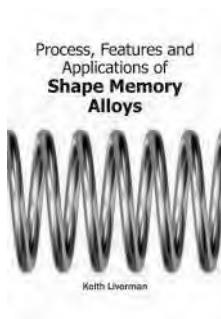
Book Size: 6"x9"

186pp./Colored

Hardback

## Handbook of Aluminium Alloys

The alloys in which aluminium is the predominant metal are referred to as aluminium alloys. Aluminium alloys have grown and improved in various aspects and applications. Due to this transformation, aluminium alloys have been widely utilized in European automotive and space industries. This book collects latest data and graphics provided by experts dealing with this subject. It also discusses the effects of processing parameters on the performance of aluminium alloys. The utilization of aluminium alloys in solar cells and panels is also discussed with respect to corrosion and their exposure to tough environment conditions. This book will be beneficial for readers interested in this field and will also pave the way for future innovations and developments in aluminium alloys.



Alloys

**Keith Liverman**

ISBN: 978-1-63238-377-8

\$125.00 US

Year 2015

Book Size: 6"x9"

290pp./Colored

Hardback

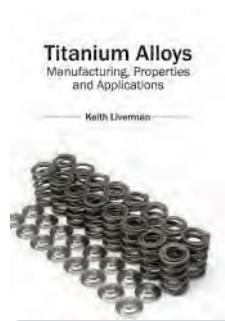
## Process, Features and Applications of Shape Memory Alloys

Alloys, which when deformed can return to their original shape once heated are called shape memory alloys (SMA). The field of shape memory alloys over the past few years has evolved as a significant topic of study. The complexity of relationship between properties and structure has always interested researchers and is mostly associated with the fact that strong multidimensional interactions occur in these alloys. This is reflected by initial researches on thermal and mechanical induced phase transformations and also latest developments emphasizing on magnetically induced structural changes. Applications of shape memory alloys offer innovative aspects which have drawn significant industrial interest attributing to its singular behavioral characteristics. These have led to the subject of shape memory alloys acquiring a position of great interest for undergoing research and studies in various fields varying from crystallography and thermodynamics to mechanical evaluation of electrical and chemical properties. The book includes recent researches and studies in this field. It encompasses various aspects of shape memory alloys like processing, novel applications and relationship between structure and properties.

## Magnesium Alloys: Concepts, Properties and Applications

Magnesium alloys have been utilized extensively due to its various features; its density is low, it is malleable, easily available and one of the most machinable metals. This has led to an increase in magnesium alloys applications. A study of magnesium alloys related to technological functions and environmental requirements has been discussed in this book. Various diverse applications of magnesium alloys, for example, enhancing the malleability of some specific magnesium alloys, molding magnesium alloys, etc. have also been elucidated. This book will be helpful for readers interested in increasing their knowledge about magnesium alloys.

# Materials Science



## Alloys

**Keith Liverman**

ISBN: 978-1-63238-453-9

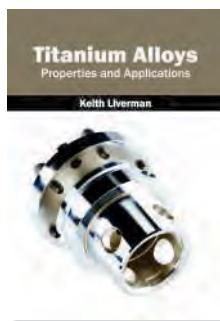
\$110.00 US

Year 2015

Book Size: 6"x9"

240pp./Colored

Hardback



## Alloys

**Keith Liverman**

ISBN: 978-1-63238-454-6

\$95.00 US

Year 2015

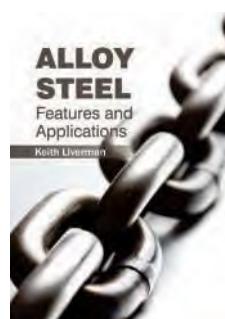
Book Size: 6"x9"

157pp./Colored

Hardback

## Titanium Alloys: Manufacturing, Properties and Applications

Titanium alloys are used in multiple sectors like military, electronics etc. This book deals with various features of titanium alloys such as: fusion-oriented additive manufacturing (AM), its modeling and functions. Further, it explains the case arrangement apparatus throughout investment casting of titanium. The book includes chapters on performance of the T.A. under tremendous force and temperature. Finally, this book explains topics on diverse exterior management techniques inclusive of nanotube-anodic layer formation. The book intends to provide some productive data to students and, even experts, dealing with or interested in titanium alloys.



## Steel

**Keith Liverman**

ISBN: 978-1-63238-044-9

\$125.00 US

Year 2015

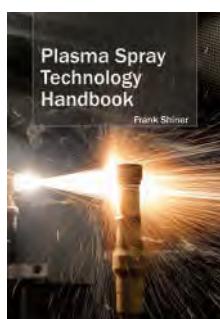
Book Size: 6"x9"

272pp./Colored

Hardback

## Titanium Alloys: Properties and Applications

The properties as well as applications of titanium alloys are discussed in this up-to-date book. It elucidates various topics regarding biomedical applications of titanium alloys, interrelation between microstructure and mechanical and technological properties, surface treatment, and the effect of radiation on the structure of the titanium alloys. It aims to serve as a valuable reference for the readers who hold keen interest in studying about titanium alloys and their applications.



## Coatings

**Frank Shiner**

ISBN: 978-1-63238-360-0

\$110.00 US

Year 2015

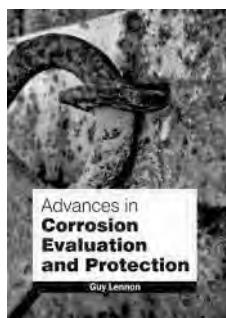
Book Size: 6"x9"

250pp./Colored

Hardback

## Plasma Spray Technology Handbook

The plasma spray technology is highlighted in this detailed book. Lately, plasma spray has been in much attention for its varied applicability because of the nature of the plasma plume and deposition structure. The plasma gas produced by the arc comprises of free electrons, ionized atoms, some neutral atoms, and undissociated diatomic molecules and the temperature of the core of the plasma jet may accelerate up to 30,000 K. The gas velocity in the plasma spray torch can be modified from subsonic to supersonic by applying converging-diverging nozzles. Heat transmission in the plasma jet is generally the outcome of the recombination of the ions and reassociation of atoms in diatomic gases on the powder surfaces and absorption of radiation. Deriving benefits from the plasma plume atmosphere, plasma spray can be applicable for surface alterations and treatment, particularly for activation of polymer surfaces. Also, plasma spray can be applied to amass nanostructures along with developed coating structures for novel usage in wear and corrosion resistance. Some state-of-the-art studies of developed usage of plasma spraying like nanostructure coatings, surface modifications, biomaterial deposition, and anti-wear and corrosion coatings have been depicted in this book.



## Corrosion

**Guy Lennon**

ISBN: 978-1-63238-031-9

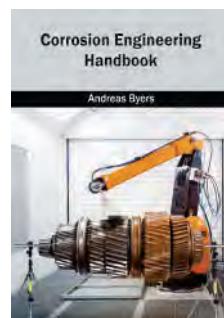
\$95.00 US

Year 2015

Book Size: 6"x9"

153pp./Colored

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## Corrosion

**Andreas Byers**

ISBN: 978-1-63238-099-9

\$154.99 US

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Book Size: 8.5"x11"

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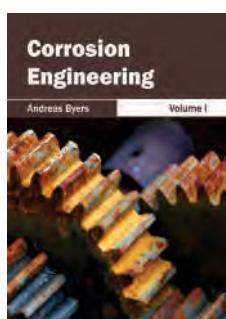
Hardback

## Advances in Corrosion Evaluation and Protection

This book deals with latest techniques in corrosion assessment and prevention. It discusses various significant topics like the role of EIS (Electrochemical Impedance Spectroscopy) to assess the potency of E-coating, corrosion and its preventive measures; new techniques for pigments formation; and the impact of plasma deposited films on corrosive carbon steel materials. The book also provides a detailed study regarding material deterioration as a result of electrochemical tests and theoretical evaluation. Furthermore, it deals with organic-inorganic hybrid coatings, which are highly effective corrosion resistors.

## Corrosion Engineering Handbook

This book is an attempt to understand corrosion engineering. Corrosion is a common phenomenon which is easy to anticipate and similarly easy to protect against. This book describes the various methods to do both. The goal of this book is to bring to the reader's attention new concepts, tools and events that can help identify corrosion and propose benefits with appropriate solutions. Students of science as well as those searching for new anti-corrosion methodologies will find this book helpful.



## Corrosion

**Andreas Byers**

ISBN: 978-1-63238-100-2

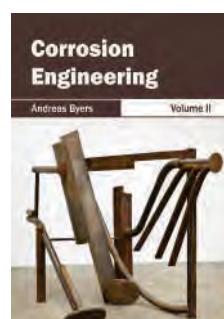
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Hardback



## Corrosion

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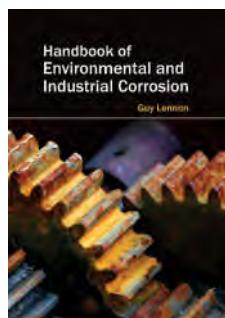
## Corrosion Engineering: Volume I

This book on corrosion is a conceptual compilation of many theories related to the phenomenon which once was considered a big challenge for scientists. But now, with the advancement of technical concepts about corrosion, it is no longer a problem. The concepts discussed in this book include different types of corrosion resistance, corrosion treatment, and corrosion impacts. This book will provide insights about chemical reactions, and the occurrence of corrosion in different environments. This book will help chemical engineers and students who are interested in the field of corrosion.

## Corrosion Engineering: Volume II

This book on corrosion is a conceptual compilation of many theories related to the phenomenon which once was considered a big challenge for scientists. But now, with the advancement of technical concepts about corrosion, it is no longer a problem. The concepts discussed in this book include different types of corrosion resistance, corrosion treatment, and corrosion impacts. This book will provide insights about chemical reactions, and the occurrence of corrosion in different environments. This book will help chemical engineers and students who are interested in the field of corrosion.

# Materials Science



## Corrosion

**Guy Lennon**

ISBN: 978-1-63238-244-3

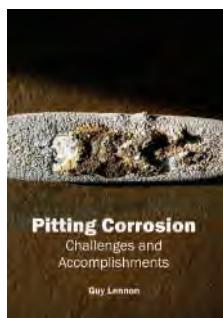
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Year 2015

Book Size: 6"x9"

177pp./Colored

Hardback



## Corrosion

**Guy Lennon**

ISBN: 978-1-63238-359-4

\$95.00 US

Year 2015

Book Size: 6"x9"

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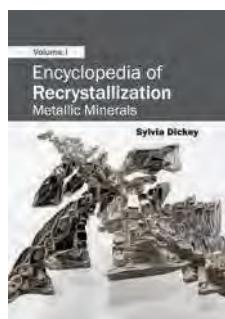
Hardback

## Handbook of Environmental and Industrial Corrosion

It is believed that in the natural and industrial circuit, corrosion and pollution are correlated procedures. Many water, air and soil pollutants stimulate corrosion and the resultant products of corrosion, such as rust, oxides and salts, pollute water bodies at ports, dams, etc. Both are destructive processes that hamper the durability of the infrastructure assets, industrial efficiency and profitability, and quality of the environment. Hence, it is important to develop and apply corrosion control measures and techniques, primarily those which are eco-friendly. The corrosion control measures will not only protect infrastructure, but also save the regular expenses on materials, equipments and structures. This book provides various methods that can be utilized to deal with the problems caused by corrosion.

## Pitting Corrosion: Challenges and Accomplishments

Corrosion is an expensive and destructive phenomenon. Hence, people engaged in the designing and maintenance of structures and equipment must have an understanding of the localized corrosion process. This book provides fundamentals concerning the cause, prevention and control of pitting corrosion. It will serve as a reference for researchers and engineers dealing with pitting corrosion.



## Metallurgy

**Sylvia Dickey**

ISBN: 978-1-63238-163-7

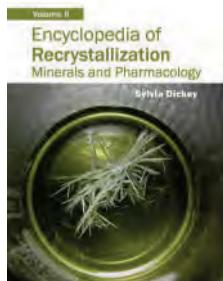
\$110.00 US

Year 2015

Book Size: 6"x9"

261pp./Colored

Hardback



## Metallurgy

**Sylvia Dickey**

ISBN: 978-1-63238-164-4

\$110.00 US

Year 2015

Book Size: 6"x9"

226pp./Colored

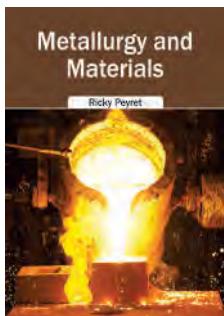
Hardback

## Encyclopedia of Recrystallization: Metallic Minerals Volume I

This book is a compilation of researches conducted by scientists on issues related to recrystallization. Various disciplines of science, like geology, metallurgy etc., in which recrystallization plays an essential role have been covered. The phenomenon of recrystallization has seen constant growth in the last few decades due to the researches being conducted in various branches of science. This book provides a detailed analysis of recrystallization of metallic minerals and discusses proper techniques and methods of characterization. Researchers, students and scientists would benefit from this all-encompassing book.

## Encyclopedia of Recrystallization: Minerals and Pharmacology Volume II

This book is a compilation of researches conducted by scientists on issues related to recrystallization. Various disciplines of science, like geology, metallurgy etc., in which recrystallization plays an essential role have been covered. The phenomenon of recrystallization has seen constant growth in the last few decades due to the researches being conducted in various branches of science. This book offers an extensive analysis of recrystallization of minerals and recrystallization in pharmacology, and also discusses proper techniques and methods of its characterization. The book includes the advancements made in diagnostic equipment, and modeling recrystallization.



Metallurgy

**Ricky Peyret**

ISBN: 978-1-63238-320-4

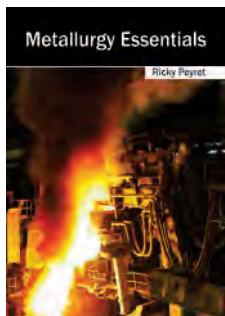
\$154.99 US

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Book Size: 8.5"x11"

192pp./Colored

Hardback



Metallurgy

**Ricky Peyret**

ISBN: 978-1-63238-321-1

\$154.99 US

Year 2015

Book Size: 8.5"x11"

220pp./Colored

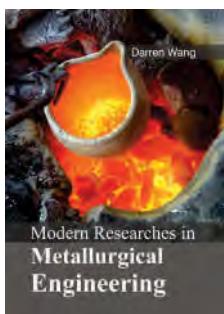
Hardback

## Metallurgy and Materials

This book delves into the progress of metallurgy from its ancient roots to the modern age. The modern metallurgical methods are described here with a focus on both branches - ferrous and non-ferrous. Current research on newer methodologies in all the steps of the metallurgical processes is discussed with an account of their effects on the industry and economy. Readers looking for an in depth understanding of the process of metallurgy will benefit from this book.

## Metallurgy Essentials

This book is an advanced text on metallurgy, redefining aspects in this vast and fast growing field of metal science. All the topics covered in this book have been written by internationally renowned experts in the field of metal science. It aims to present the most discrete researches and unexplored concepts to give a new direction to the theories in this field. This book will be beneficial for researchers, scientists, and for students who have a keen interest in the field of metallurgy.



Metallurgy

**Darren Wang**

ISBN: 978-1-63238-334-1

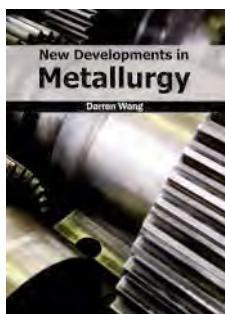
\$95.00 US

Year 2015

Book Size: 6"x9"

198pp./Colored

Hardback



Metallurgy

**Darren Wang**

ISBN: 978-1-63238-343-3

\$95.00 US

Year 2015

Book Size: 6"x9"

187pp./Colored

Hardback

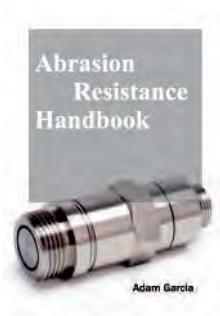
## Modern Researches in Metallurgical Engineering

Metallurgical engineering is the science of innovation, implementation and modeling of the process that transforms metals, alloys and other engineering materials via cost-effective methods. Since the Bronze Age, i.e. 3000 years ago, metallurgical engineering has played a pivotal role, wherein alloys and metals were shaped to build weapons and tools. This science has evolved over the ages. This book covers an array of latest theories and practices in the field of metallurgy and all related areas, including mineral processing, extraction, thermal treatment and casting.

## New Developments in Metallurgy

The novel developments and advancements in the field of metallurgy are described in this profound book. In the past few years, scientists and engineers have been trying to meet the demands of high performance materials through active material research and engineering. The need for quality and reliability has resulted in radical technological achievements in the field of advanced materials and manufacturing processes. This book compiles various researches and findings of experts involved in developing technology that supports advanced materials and their development. It covers traditional methods and modern computerized approaches. The book also discusses the industrial applications of advanced materials and their adoption in clinical treatments. This book will widen the spectrum of knowledge regarding this field for students, engineers and professionals.

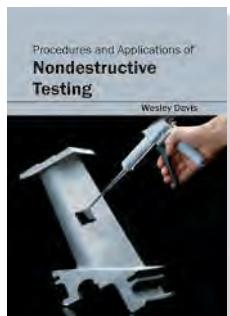
# Materials Science



## Materials Degradation

### Adam Garcia

ISBN: 978-1-63238-003-6  
\$110.00 US  
Year 2015  
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Hardback



## Non-Destructive Testing

### Wesley Davis

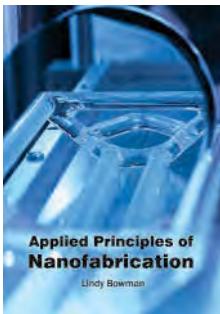
ISBN: 978-1-63238-376-1  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
266pp./Colored  
Hardback

## Abrasion Resistance Handbook

This book provides a descriptive account based on the abrasion resistance of materials and educates the readers with up-to-date in-depth information. Researchers and scientists from across the planet have contributed valuable data and information in this all-inclusive book. It elucidates the abrasion resistance of polymer nanocomposites, high performance fabrics, cement-based composites, rubber, etc. It also discusses the numerical simulation of abrasion of particles. The aim of this book is to serve as a valuable source of reference for readers including researchers, students and even scientists.

## Procedures and Applications of Nondestructive Testing

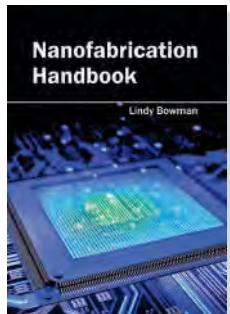
This book provides basic theoretical knowledge about NDT and also discusses its practical applications. Non-destructive testing (NDT) aids scientists to assess the structures and properties of the materials and components that they are using. NDT techniques and models are economical and guarantee the quality of engineered systems and products. NDT methods use various procedures ranging from several contact methods, such as eddy current, magnetic particle and liquid penetrant testing, to contact-less method, such as radiography, thermography, and shearography. The book also covers several latest developments and applications of this technique in different fields, including evaluation of civil structures and its application in medicine.



## Nanotechnology

### Lindy Bowman

ISBN: 978-1-63238-056-2  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
276pp./Colored  
Hardback



## Nanotechnology

### Lindy Bowman

ISBN: 978-1-63238-336-5  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
366pp./Colored  
Hardback

## Applied Principles of Nanofabrication

Nanofabrication is an active field of research. Nanotechnology has witnessed a rapid expansion in the past few years, mainly owing to the speedy development in nanofabrication methods employed to manufacture nano-devices. Nanofabrication can be divided into two portions: methods using chemical combination and methods using nanolithography. This book contains various chapters and aims to offer the essential and current developments of nanolithography. It discusses significant issues regarding lithographic technologies such as EUV lithography, scanning probe, nano-sphere and inkjet printing. The book also covers various aspects related to resolution enhancement techniques. Most chapters analyze the lithographic procedures available for researchers and experts. This book covers the subject thoroughly and will be beneficial for its readers.

## Nanofabrication Handbook

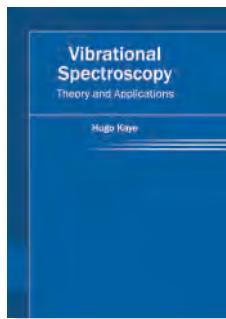
In the wake of recent advancements, science is one of the most swiftly progressing fields. We deal with a lot of challenges today, such as the growing demand for energy and consumer goods throughout the world. We consider that new developments in science and technology will help resolve many of these troubles. Nanofabrication is a key process required for the development of novel equipment, strategy and systems. Specific management of nanomaterials, nanostructures, nanodevices and their performances is necessary for future development in technology. This book gives the most recent research developments in nanofabrication of natural and non-living substances, bio and hybrid materials. With this book we intend to contribute in creating a brighter future for the next generation.







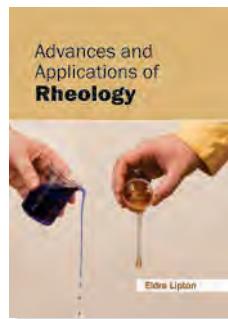
# Materials Science



## Spectroscopy

**Hugo Kaye**

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Year 2015  
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Hardback



## Rheology

**Eldra Lipton**

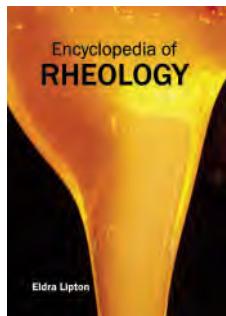
ISBN: 978-1-63238-027-2  
\$90.00 US  
Year 2015  
Book Size: 6"x9"  
115pp./Colored  
Hardback

## Vibrational Spectroscopy: Theory and Applications

This book presents the theory as well as applications of vibrational spectroscopy with the help of state-of-the-art information. Diverse spheres including chemistry, physics, astronomy, medicine, mineralogy and biology have found use of infrared and Raman spectroscopy. This text provides some instances of the uses of vibrational spectroscopy in supramolecular chemistry, inorganic chemistry, solid state physics and other such fields, including those of molecule-based materials or organic-inorganic interfaces.

## Advances and Applications of Rheology

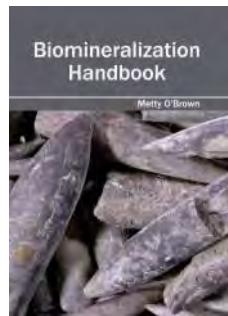
This book collects current research in the field of rheology. It covers various topics related to this field. Polymer gels, liquid crystals, food rheology, etc. are some of the subjects discussed within the book. This book will be helpful for researchers, scientists, academicians and industrial experts.



## Rheology

**Eldra Lipton**

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\$145.00 US  
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## Pedology

**Metty O'Brien**

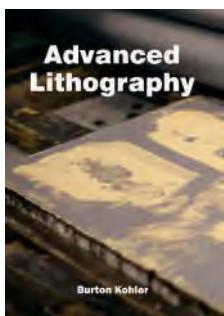
ISBN: 978-1-63238-065-4  
\$95.00 US  
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Book Size: 6"x9"  
175pp./Colored  
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## Encyclopedia of Rheology

Detailed information on the vast field of rheology has been encompassed in this book. It provides in-depth knowledge about ongoing researches in the discipline of rheology. It aims to support scientists, industry specialists and academic and applied researchers in their research activities by providing significant information on various topics related to rheology. It elucidates a wide variety of subjects like food rheology, polymer gels, liquid crystals and drilling fluids besides others.

## Biominerization Handbook

The process by which living organisms produce minerals is referred to as biominerization. This book discusses various topics related to the formation, organization and mineralization of novel structural material. The field of biominerization covers various disciplines such as supramolecular chemistry, molecular biology, materials science and engineering. The common feature in these various subjects of research under biominerization is the utilization of nature to generate functional material. Furthermore, an understanding of the processes utilized by nature to make strong and tough materials can lead to the creation of man-made materials with similar properties. This book consists of varied features of biominerization which will be useful for readers interested in this field.

**Lithography****Burton Kohler**

ISBN: 978-1-63238-016-6

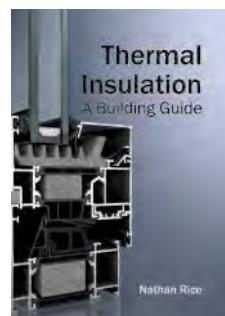
\$125.00 US

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**Heat Transfer****Nathan Rice**

ISBN: 978-1-63238-451-5

\$90.00 US

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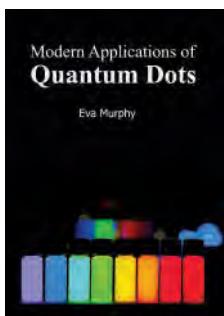
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113pp./Colored

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**Advanced Lithography**

This book presents state-of-the-art information regarding the extensive field of advanced lithography. Advanced lithography expands into numerous sub-fields like micro electro-mechanical system (MEMS), nano-lithography, nano-physics, etc. In optimized electron device, nano-lithography reaches up to 20 nm in size. Subsequently, we have to analyze and develop true single nanometer size lithography. One of the solutions is to analyze a fusion of bottom up and top down technologies like EB drawing and self-assembly with block copolymer. In nano-photonics and MEMS, 3D structures are required for carrying out specific functions in the devices for applications. They are formed as a result of execution of numerous techniques like stereo-lithography, sputtering, colloid lithography, deposition, dry etching, etc. This book provides the readers with valuable information about nano structure, 3D structure, nano-lithography, and elucidates the methodology, techniques and applications of nano-lithography.

**Quantum Electronics****Eva Murphy**

ISBN: 978-1-63238-331-0

\$125.00 US

Year 2015

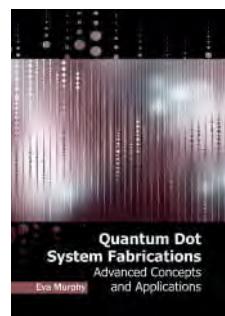
Book Size: 6"x9"

292pp./Colored

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**Thermal Insulation: A Building Guide**

This book provides substantial information on thermal insulation. Thermal insulation is fundamentally defined as the technique of reduction of heat transfer between objects which are in thermal contact or in range of radiative influence. This book provides fundamental practical and prospective applications of the concept of saving energy and also offers methods and approaches regarding this subject. It demonstrates several methods related to the concept of thermal insulation, like the processes and endeavors to build an efficient passive building model. This book will be beneficial for readers interested in this field.

**Quantum Electronics****Eva Murphy**

ISBN: 978-1-63238-380-8

\$95.00 US

Year 2015

Book Size: 6"x9"

184pp./Colored

Hardback

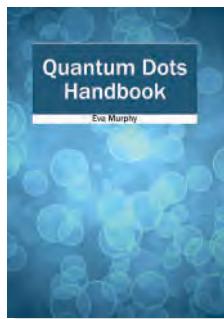
**Quantum Dot System Fabrications: Advanced Concepts and Applications**

The advanced concepts and applications in quantum dot system fabrications are elucidated in this all-inclusive book. It focuses on some quantum dot system (QDS) production techniques which take into consideration the dependence of structure, dimension and composition on growth processes and conditions such as temperature, strain and deposition rates. This book is a comprehensive compilation of fundamental studies conducted in a similar way as the ones conducted in Physics, Chemistry, and Material Science, with detailed account of various researches and latest information on developments related to QDS systems.

**Modern Applications of Quantum Dots**

Researchers have been examining the properties of quantum dots for a long time. This book describes the modern applications of quantum dots with the help of valuable information. It provides a compilation of various practical applications of quantum dots. The book contains an overview of the thermo-optical characterization of CdSe/ZnS core-shell nanocrystal solutions and also discusses new optical and lasing applications along with a few examples of quantum dot systems for distinct applications in electronics. Examples regarding the usage of this system for biological applications have also been provided. It contains latest research work contributed by researchers and scientists related to this field from across the world, providing the readers with general research like the one conducted in basic sciences like chemistry, medicine, biology and physics with a valuable base text presenting latest research in the field of quantum-dot systems.

# Materials Science



## Quantum Electronics

### Eva Murphy

ISBN: 978-1-63238-381-5

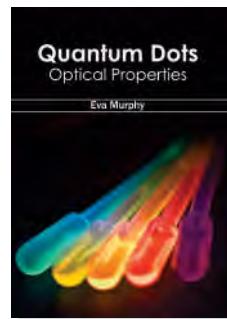
\$110.00 US

Year 2015

Book Size: 6"x9"

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## Quantum Electronics

### Eva Murphy

ISBN: 978-1-63238-382-2

\$125.00 US

Year 2015

Book Size: 6"x9"

256pp./Colored

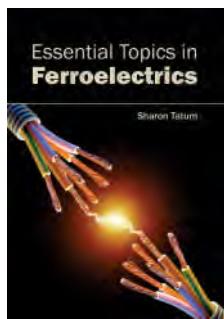
Hardback

## Quantum Dots Handbook

This book gives innovative and resourceful techniques for calculating the optical and transport characteristics of quantum dot structures. The book deals with the importance of transport and electronic characteristics of quantum dot structures. This is a collaborative initiative, providing primary research such as the ones conducted in physics, chemistry, and material science. This book serves as a source of reference for this field.

## Quantum Dots: Optical Properties

This book gives innovative and resourceful techniques for calculating the optical and transport characteristics of quantum dot structures. The book has important chapters which discuss the novel optical properties of quantum dot structures. This is a collaborative book, providing primary research such as the ones conducted in physics, chemistry and material science. This book serves as an important source of reference for this field.



## Ferroelectrics

### Sharon Tatum

ISBN: 978-1-63238-186-6

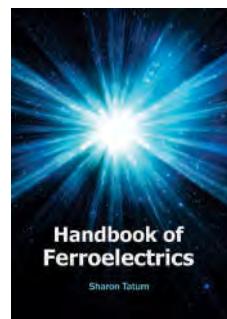
\$125.00 US

Year 2015

Book Size: 6"x9"

282pp./Colored

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## Ferroelectrics

### Sharon Tatum

ISBN: 978-1-63238-248-1

\$125.00 US

Year 2015

Book Size: 6"x9"

259pp./Colored

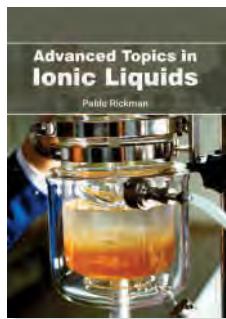
Hardback

## Essential Topics in Ferroelectrics

Ferroelectricity is one of the most studied phenomena in the scientific community because of the vitality of ferroelectric materials in a broad spectrum of applications comprising of high dielectric constant capacitors, pyroelectric devices and transducers for medical diagnostic, piezoelectric sonars, electro-optic light valves, electromechanical transducers and ferroelectric random access memories. Ferroelectricity at nanoscale draws huge attention to the advancement of novel technologies. The need for ferroelectric systems with particular applications led to detailed research along with the betterment of processing and characterization techniques. This book provides an updated outlook of current research into ferroelectricity, covering several formulations, their forms (bulk, thin films, and ferroelectric liquid crystals), and ferroelectricity at nanoscale.

## Handbook of Ferroelectrics

Ferroelectricity is one of the most studied phenomena in the scientific community because of the vitality of ferroelectric materials in a broad spectrum of applications comprising of high dielectric constant capacitors, pyroelectric devices and transducers for medical diagnostic, piezoelectric sonars, electro-optic light valves, electromechanical transducers and ferroelectric random access memories. Ferroelectricity at nanoscale draws huge attention to the advancement of novel technologies. The need for ferroelectric systems with particular applications led to detailed research along with the betterment of processing and characterization techniques. This book provides an updated outlook of current research into ferroelectricity, covering several formulations, fabrication, properties, and theoretical topics.



## Ionic Liquids

**Pablo Rickman**

ISBN: 978-1-63238-025-8

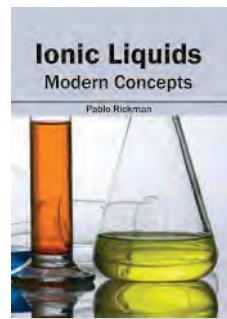
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Year 2015

Book Size: 6"x9"

354pp./Colored

Hardback



## Ionic Liquids

**Pablo Rickman**

ISBN: 978-1-63238-305-1

\$145.00 US

Year 2015

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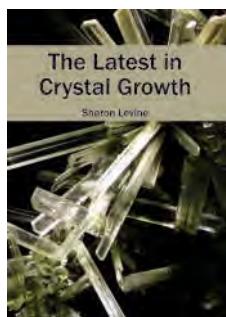
Hardback

## Advanced Topics in Ionic Liquids

This book presents an overview on latest advancements in the study and research of ionic liquids. Ionic liquids are a rapidly evolving field of study in physical chemistry, material science, technology and engineering. Use of ionic liquids for research in biology and natural resource domain has received significant attention. This book presents updated scientific developments in theoretical, specific and applied domains of ionic liquid. It encompasses the latest developments in ionic liquid research on basic properties, energy, fuels and biomass conversion. It is a valuable source of information for scientists, engineers and academicians engaged in the research related to ionic liquids.

## Ionic Liquids: Modern Concepts

This book presents updated scientific developments in theoretical, specific and applied domains of ionic liquids. Ionic liquids studies are a rapidly evolving field in physical chemistry, material science, technology and engineering. Use of ionic liquids for research in biology and natural resource domain has received significant attention. This book encompasses the latest developments in ionic liquid research on organic reactions and biological applications, and materials and processing as its relevant fields. It is a valuable source of information for scientists, engineers and academicians engaged in the research related to ionic liquids.



## Condensed Matter Physics

**Sharon Levine**

ISBN: 978-1-63238-438-6

\$160.00 US

Year 2015

Book Size: 6"x9"

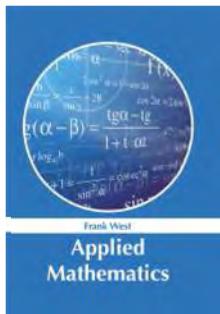
430pp./Colored

Hardback

## The Latest in Crystal Growth

This book presents latest advances in the field of crystal growth technology. Crystal growth is the basic step for a wide number of crucial applications. The advancement of novel devices and products in various fields varying from the traditional microelectronic industry to pharmaceutical industry and many others, relies heavily on crystallization processes. The purpose of this book is to present crucial selected topics, applied to organic and inorganic systems. Authors who have contributed in this book are important researchers in their area of specialization, working in reputed universities and research labs across the world. The book covers biological systems like proteins, bone and ice crystallization, applications in inorganic systems and explains common growth techniques like chemical vapor crystallization and electrodeposition. This book has been compiled to meet the requirements of students studying in the field of crystal growth and for scientists and engineers in the fields of crystalline materials, crystal engineering and the industrial applications of crystallization processes.

# Mathematics



## Mathematics

**Frank West**

ISBN: 978-1-63238-558-1

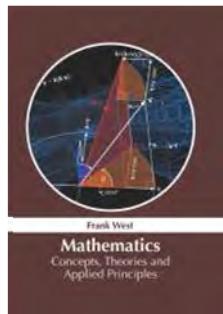
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## Mathematics

**Frank West**

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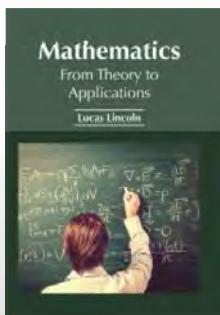
Hardback

## Applied Mathematics

Applied mathematics seeks mathematical solutions to problems that are encountered in the real world. This field has progressed rapidly over the past two decades and its applications are finding their way across multiple areas such as computer science, business, engineering, etc. The various advancements in applied mathematics are glanced at and their applications as well as ramifications are looked at in detail. Topics included in this book encompass the multi-disciplinary aspect of this field and its various applications in numerical and computational modeling. This book will help new researchers by foregrounding their knowledge in this branch. It will prove useful for students and teachers in the fields of game theory, mathematical physics and industrial mathematics.

## Mathematics: Concepts, Theories and Applied Principles

This book on mathematics deals with the concepts and theories that are derived with a view to group and compute numbers. Mathematics is an essential requirement for almost all sciences that require abstraction for its functioning. Topics included in this book seek to advance the level of research that has been seen in this field in the past decade. This book, with its detailed analyses and data, will prove immensely beneficial to professionals and students involved in this area at various levels. Case studies as well as conceptual theorems allow the readers to get a holistic understanding of the areas of study that fall under mathematics. This text is appropriate for students seeking detailed information in this area as well as for experts.



## Mathematics

**Lucas Lincoln**

ISBN: 978-1-63238-554-3

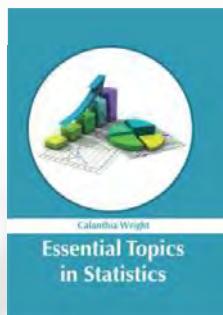
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## Probability and Statistics

**Calanthia Wright**

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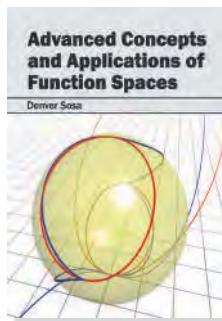
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## Essential Topics in Statistics

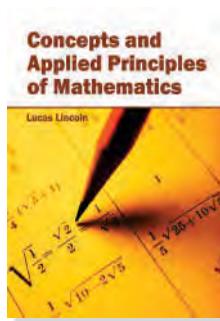
Statistics is the science of compilation of numerical data that may represent a social or physical fact. This book on statistics deals with the basic methodology that is followed to derive inferences. Statistics uses the help of aggregation, averages and mean to calculate values of study. Contents included in this book discuss the various techniques through which results on the basis of data, data sets and models can be arrived at. There has been rapid progress in this field and its applications are finding their way across multiple industries. Tools such as sampling, surveys and experiments are a vital part of this field. This book on statistics will be of great help to students and researchers in the fields of economics, number theory and computational statistics.



## Mathematics

**Denver Sosa**

ISBN: 978-1-63238-009-8  
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## Mathematics

**Lucas Lincoln**

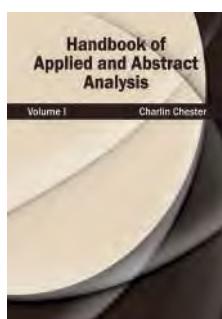
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## Advanced Concepts and Applications of Function Spaces

Function space is a significant field of mathematics. Not just mathematical operational topics or conceptual technique of problem solving, this topic covers a huge part of mathematical applications, with different concepts such as banach spaces, geometry, partial differential equation based problem solving, etc. The main emphasis of this book is on the applications of functional spaces and advanced mathematical approaches that use functional spaces. This book will be a resourceful guide for the mathematicians and researchers, who wish to further explore this field.

## Concepts and Applied Principles of Mathematics

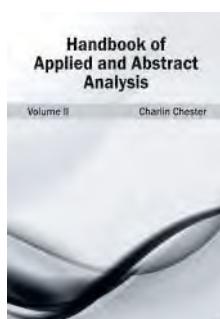
Mathematics is a discipline that has existed for centuries. It has developed into a more proficient and application based science today. This book attempts to understand the intricacies of mathematics and mathematical sciences as well as how research in this field is relevant to our lives. The various projects that are constantly contributing towards advancement and the evolution of this field are looked at in detail here. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



## Mathematics

**Charlin Chester**

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## Mathematics

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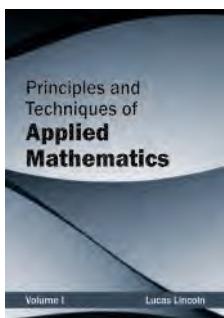
## Handbook of Applied and Abstract Analysis: Volume I

This book is a guide to all those researching new theories in the field of mathematics. It encircles the latest researches, theories and concepts in the field of classical analysis, linear and nonlinear functional analysis, ordinary and partial differential equations, etc. The aim of this book is to provide current and crucial developments and become a researcher's guide in the area of abstract and applied analysis.

## Handbook of Applied and Abstract Analysis: Volume II

This book is a guide to all those researching new theories in the field of mathematics. It encircles the latest researches, theories and concepts in the field of classical analysis, linear and nonlinear functional analysis, ordinary and partial differential equations, etc. The aim of this book is to provide current and crucial developments and become a researcher's guide in the area of abstract and applied analysis.

# Mathematics



Mathematics

**Lucas Lincoln**

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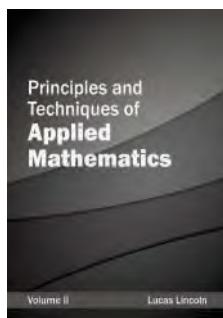
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Mathematics

**Lucas Lincoln**

ISBN: 978-1-63238-374-7

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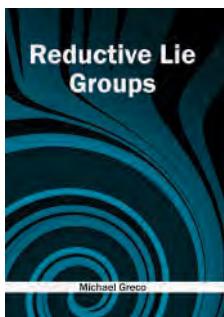
Hardback

## Principles and Techniques of Applied Mathematics: Volume I

This book attempts to understand the intricacies of applied mathematics and the researches that are being conducted around the world in this field. It also explains how such results are relevant to our lives. The various projects that are constantly contributing towards advancements and the evolution of this field are comprehensively discussed. Those in search of information to further their knowledge of this field will be greatly assisted by this book.

## Principles and Techniques of Applied Mathematics: Volume II

This book attempts to understand the intricacies of applied mathematics and the researches that are being conducted around the world in this field. It also explains how such results are relevant to our lives. The various projects that are constantly contributing towards advancements and the evolution of this field are comprehensively discussed. Those in search of information to further their knowledge of this field will be greatly assisted by this book.



Mathematics

**Michael Greco**

ISBN: 978-1-63238-399-0

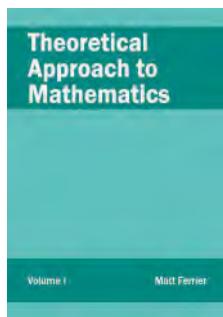
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Mathematics

**Matt Ferrier**

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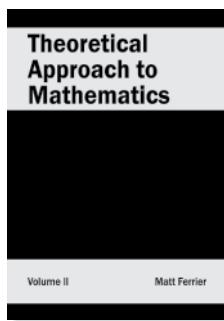
Hardback

## Reductive Lie Groups

This book presents an extensive analysis of reductive lie groups. The aim of this profound book is to provide a comprehensive course on the topics of global study and establish certain orbital applications of the integration on topological groups and their algebras to harmonic analysis and induced representations in representation theory.

## Theoretical Approach to Mathematics: Volume I

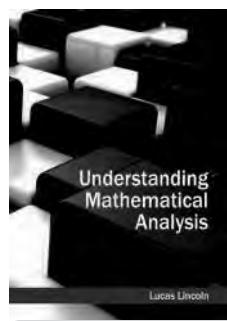
This book is an excellent compilation of theories and innovative applications to provide readers with incredible insights into various topics in the subject. Mathematics is an ever evolving field and this book provides well-reviewed content to help researchers and mathematicians in their future studies. This book contains many chapters which describe advances in the field of mathematics and also its applications in various fields. Written by an international group of authors, this book provides a global view of the discipline.



## Mathematics

**Matt Ferrier**

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## Mathematics

**Lucas Lincoln**

ISBN: 978-1-63238-460-7  
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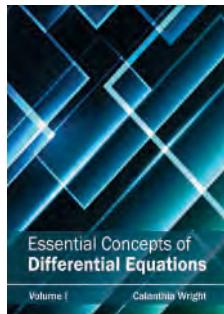
## Theoretical Approach to Mathematics:

### Volume II

This book is an excellent compilation of theories and innovative applications to provide readers with incredible insights into various topics in the subject. Mathematics is an ever evolving field and this book provides well-reviewed content to help researchers and mathematicians in their future studies. This book contains many chapters which describe advances in the field of mathematics and also its applications in various fields. Written by an international group of authors, this book provides a global view of the discipline.

## Understanding Mathematical Analysis

Mathematical analysis derives from calculus, and its applications can be found in any space of mathematical objects, which has a parameter of nearness attributed to it. The central focus of this book is mathematical analysis. This book will present to students and engineers a whole new conceptualization of the subject by highly qualified mathematicians. There are many chapters in this book which deal with various different concepts related to mathematical analysis.



## Differential Equations

**Calanthia Wright**

ISBN: 978-1-63238-182-8  
\$154.99 US  
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Book Size: 8.5"x11"  
210pp./Colored  
Hardback



## Differential Equations

**Calanthia Wright**

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## Essential Concepts of Differential

### Equations: Volume I

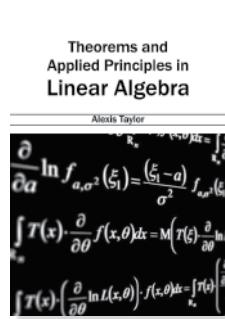
This book attempts to understand the multiple branches and applications that fall under the field of differential equations and how such research can be useful in our lives. The various advancements that are constantly contributing towards the growth of this discipline are also delved into. This book compiles the most up-to-date data and valuable contributions from an internationally renowned group of authors who have shared their expertise through this book. All those who wish to study the advanced aspects of biotechnology will benefit from this book.

## Essential Concepts of Differential

### Equations: Volume II

This book attempts to understand the multiple branches and applications that fall under the field of differential equations and how such research can be useful in our lives. The various advancements that are constantly contributing towards the growth of this discipline are also delved into. This book compiles the most up-to-date data and valuable contributions from an internationally renowned group of authors who have shared their expertise through this book. All those who wish to study the advanced aspects of biotechnology will benefit from this book.

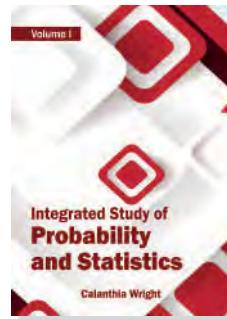
# Mathematics



## Numerical Analysis

**Alexis Taylor**

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## Probability and Statistics

**Calanthia Wright**

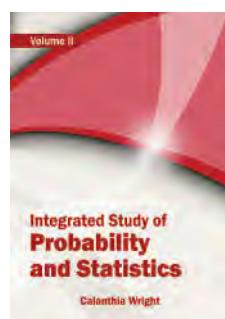
ISBN: 978-1-63238-296-2  
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## Theorems and Applied Principles in Linear Algebra

In this book, theorems as well as applied principles in linear algebra are described. Linear algebra holds a position of paramount importance in modern mathematics. Mathematicians have formulated highly effective methods for solving problems of this highly mature realm of mathematics. This book consists of selected topics in linear algebra, which represent the recent developments in the most widely encountered and discussed issues. It consists of various theorems and applications in different domains of linear algebra, such as linear systems, matrices, operators, inequalities, etc. It will prove to be a valuable source of information for researchers, scientists and graduate students.

## Integrated Study of Probability and Statistics: Volume I

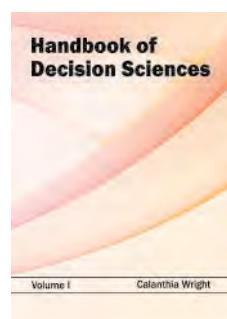
The book attempts to help the readers understand the more advanced concepts of probability and statistics. The various theories in both disciplines are given an in-depth look. Current and proposed research on new methodologies and their applications at a practical level are discussed as well. Students in these disciplines will find the various case studies and researches mentioned in the book helpful in furthering their interest in these fields.



## Probability and Statistics

**Calanthia Wright**

ISBN: 978-1-63238-297-9  
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## Decision Science

**Calanthia Wright**

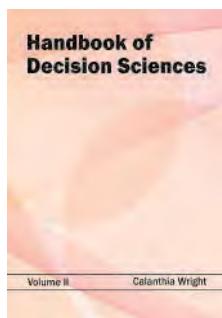
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## Integrated Study of Probability and Statistics: Volume II

The book attempts to help the readers understand the more advanced concepts of probability and statistics. The various theories in both disciplines are given an in-depth look. Current and proposed research on new methodologies and their applications at a practical level are discussed as well. Students in these disciplines will find the various case studies and researches mentioned in the book helpful in furthering their interest in these fields.

## Handbook of Decision Sciences: Volume I

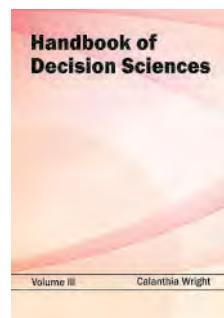
This book comprises advanced researches and innovative findings in the dynamic field of decision making. With the recent developments in this discipline, the odds of considering both the known unknowns and the unknown unknowns in arriving at the most precise decision; have increased tremendously. This book elucidates case studies and inventive theories for decision science which will help both students and experts in broadening their vision of the subject.



## Decision Science

**Calanthia Wright**

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## Decision Science

**Calanthia Wright**

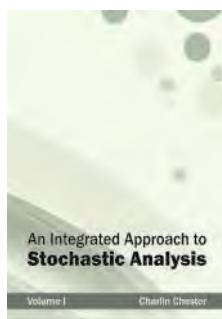
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## Handbook of Decision Sciences: Volume II

This book comprises advanced researches and innovative findings in the dynamic field of decision making. With the recent developments in this discipline, the odds of considering both the known unknowns and the unknown unknowns in arriving at the most precise decision; have increased tremendously. This book elucidates case studies and inventive theories for decision science which will help both students and experts in broadening their vision of the subject.

## Handbook of Decision Sciences: Volume III

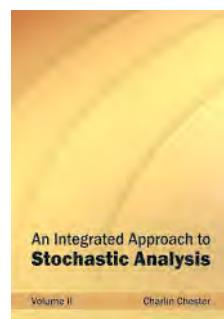
This book comprises advanced researches and innovative findings in the dynamic field of decision making. With the recent developments in this discipline, the odds of considering both the known unknowns and the unknown unknowns in arriving at the most precise decision; have increased tremendously. This book elucidates case studies and inventive theories for decision science which will help both students and experts in broadening their vision of the subject.



## Stochastic Analysis

**Charlin Chester**

ISBN: 978-1-63238-049-4  
 \$154.99 US  
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## Stochastic Analysis

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 \$154.99 US  
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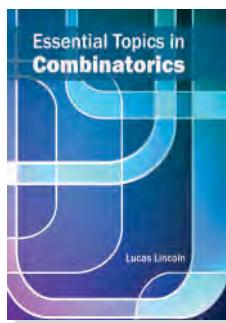
## An Integrated Approach to Stochastic Analysis: Volume I

This book on stochastic analysis is a valuable guide for mathematicians, economists, and students and researchers in the field of finance. In this book, some of the most crucial aspects of stochastic analysis have been presented. Also included in this book are case studies on applications of stochastic analysis, and stochastic control systems. This book contains numerous concepts and research works which briefly discuss the various aspects related to stochastic analysis. It represents a diverse and international set of perspectives in this discipline, ranging from the most uncommon topics to advanced developments and researches in this field.

## An Integrated Approach to Stochastic Analysis: Volume II

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# Mathematics



## Combinatorics

**Lucas Lincoln**

ISBN: 978-1-63238-184-2

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## Optimization

**Calanthia Wright**

ISBN: 978-1-63238-259-7

\$154.99 US

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Book Size: 8.5"x11"

190pp./Colored

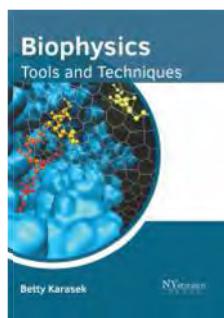
Hardback

## Essential Topics in Combinatorics

Combinatorics is a branch of pure mathematics that pertains to the study of finite or countable discrete structures. This book looks at various aspects of combinatorics as a science. It brings forth the recent developments from across the globe. This book should be of assistance to students and mathematicians who are looking for the latest breakthroughs and researches in this field.

## Handbook of Optimization

This book attempts to go into a deeper understanding of what it means to optimize. The various methodologies of optimization are discussed in detail. Newer methods and types of optimization are also glanced at with a deeper look at what the term means for the scientific community. Researchers and students in this field will find this book immensely helpful.



## Physics

### Betty Karasek

ISBN: 978-1-63238-544-4

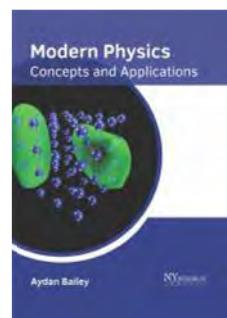
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## Physics

### Aydan Bailey

ISBN: 978-1-63238-543-7

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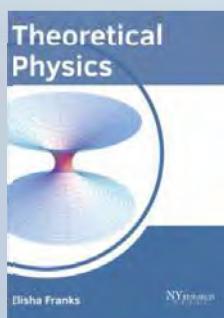
Hardback

## Biophysics: Tools and Techniques

Biophysics can be termed as the application of the principles and methods of physics to biological structures. This book on biophysics is interdisciplinary in its approach. This book presents the complex subject of biophysics in the most comprehensible and easy to understand language. Some of the diverse topics covered herein address the varied branches that fall under this category. The text presents the current practices that are being developed in this field. The various studies that are constantly contributing towards advancing technologies and evolution of this field are examined in detail. This book will be of great use to researchers in the fields of bioengineering, systems biology and computational biology.

## Modern Physics: Concepts and Applications

Physics studies in detail the varied aspects of matter with respect to force, space, energy and time. Particle physics, nuclear physics, bio physics, optical physics etc. are some of the significant branches of physics which have applications across multiple industries. This book on modern physics deals with the breakthroughs that have occurred of this field and the various modern applications that derive their propositions on the basis of these theories. The book includes advanced topics that are relevant for those seeking insights into this field. It elucidates the concepts and innovative models around prospective developments with respect to modern physics. The book will be of great help for students and researchers in the field of quantum mechanics, quantum theory, particle physics, and other related areas of study.



## Physics

### Elisha Franks

ISBN: 978-1-63238-546-8

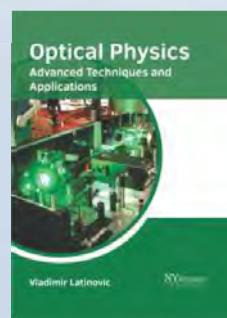
\$145.00 US

Year 2017

Book Size: 8.5"x11"

243pp./Colored

Hardback



## Optics

### Vladimir Latinovic

ISBN: 978-1-63238-545-1

\$140.00 US

Year 2017

Book Size: 8.5"x11"

221pp./Colored

Hardback

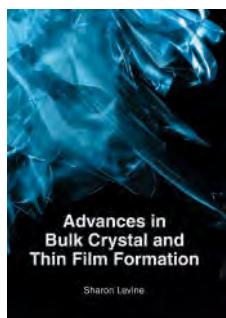
## Theoretical Physics

Theoretical physics is a branch of physics that studies physical objects through mathematical methods. It is applied to study natural phenomena and also to predict and analyse it. This book on theoretical physics seeks to incorporate the various theories that have been developed into well-established systems as well as its implications on other fields. It discusses the fundamentals as well as modern approaches of theoretical physics. As this field is emerging at a rapid pace, the contents of this book will help the readers understand the modern concepts and applications of the subject. This text will be of help to students and teachers in the fields of quantum engineering, fluid theory and general relativity.

## Optical Physics: Advanced Techniques and Applications

This book unfolds the innovative aspects of the advanced techniques used in optical physics. It concentrates on the applications of optical physics, which aids in advancing communications, medicine, manufacturing, and various other sectors. The study of electromagnetic radiation and the primary focus of this field. This book is a compilation of chapters that discuss the most vital concepts and emerging trends in this area of study. The various advancements in optical physics are glanced at and their applications as well as ramifications are looked at in detail. Scientists, students and researchers actively engaged in the field of optical physics will find this book full of crucial and unexplored concepts.

# Physics



Physics

**Sharon Levine**

ISBN: 978-1-63238-029-6

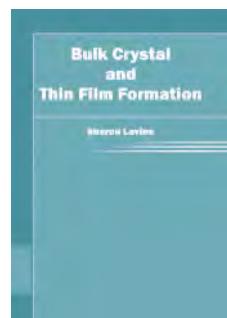
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Physics

**Sharon Levine**

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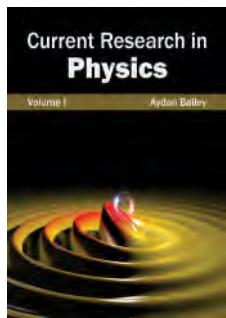
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## Advances in Bulk Crystal and Thin Film Formation

In contemporary research and development, materials manufacturing crystal growth is referred to as a method to solve a broad spectrum of technological tasks in the fabrications of materials with stipulated properties. This all-inclusive profound book enables a reader to achieve insight into essential characteristics of the field. It includes important topics under the section bulk crystal growth.

## Bulk Crystal and Thin Film Formation

In present-day research and development, materials manufacturing crystal growth is referred to as a method to solve a broad spectrum of technological tasks in the fabrications of materials with stipulated properties. This all-inclusive book enables a reader to achieve insight into essential characteristics of the field, including formation of thin films, crystallization of proteins, rise of bulk organic crystals, low-dimensional structures, and other organic compounds.



Physics

**Aydan Bailey**

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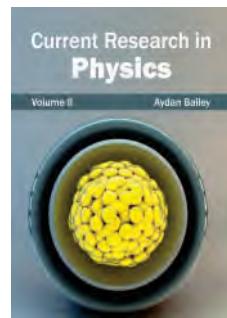
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Physics

**Aydan Bailey**

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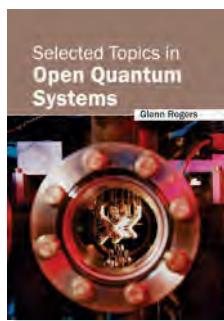
Hardback

## Current Research in Physics: Volume I

This book attempts to look at the world of physics where the avenues for research and development are vast. It looks at the current available research projects and methodologies that are going on in the field today. The various branches of physics research and their focus are discussed as well as practical applications of proposed technological advancements. New research opportunities that are turning up are also glanced at. Researchers, scientists as well students of this discipline will find this compilation helpful in furthering their knowledge.

## Current Research in Physics: Volume II

This book attempts to look at the world of physics where the avenues for research and development are vast. It looks at the current available research projects and methodologies that are going on in the field today. The various branches of physics research and their focus are discussed as well as practical applications of proposed technological advancements. New research opportunities that are turning up are also glanced at. Researchers, scientists as well students of this discipline will find this compilation helpful in furthering their knowledge.



## Physics

### Glenn Rogers

ISBN: 978-1-63238-413-3  
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## Selected Topics in Open Quantum Systems

A quantum system in contact with its environment is called an open environment system. The aim of this book is to present certain aspects of contemporary theory on open quantum systems. It presents numerous updated topics, like modeling of quantum noise, detecting quantum entanglement, quantum communication procedures, computational intricacy in the evaluation of quantum operations etc., along with discussions on light propagation in optically dressed media, entropy and information measures for quantized electromagnetic fields media. The book aims to serve as a useful source of information for students as well as researchers interested in the extensive fields of open systems and quantum optics.

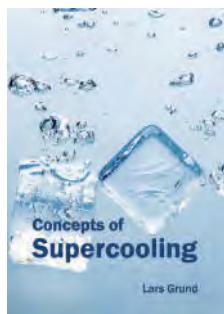


## Condensed Matter Physics

Sharon Tatum  
  
ISBN: 978-1-63238-096-8  
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## Concepts and Functions of Ferromagnetic Resonance

The book offers an in-depth look at ferromagnetic resonance, demonstrating its functions and concepts. It lays emphasis on current developments in the interaction of science and technology of nano-structures like nano-wires, photonic crystals, spinel type nano-particles etc. Electromagnetic resonance techniques now play a pivotal role in science and technology. The method of ferromagnetic resonance is most vastly used in spintronics, electronics, space navigators, remote control equipment, radio engineering, electronic computers, maritime electrical engineering, instrument making and geo-physical programs of prospecting.

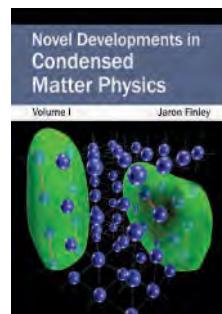


## Condensed Matter Physics

Lars Grund  
  
ISBN: 978-1-63238-097-5  
\$90.00 US  
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## Concepts of Supercooling

This book brings a comprehensive elaboration on the fundamentals of supercooling phenomenon. The existence of supercooled liquids can be traced in the atmosphere, various creatures, metallurgy, and diverse industrial processes. For centuries, maintaining the stability of the metastable, supercooled liquid, and inspiring the associated process of nucleation have both been topics of great scientific interest. This text is valuable as a resource of beginning guidance for professionals keen on exploring supercooling of water and water-based solutions in biology and industry. This book also elucidates the modeling and the configuration of subsequent dendritic development of supercooled solutions, and glass transitions and interface balance.



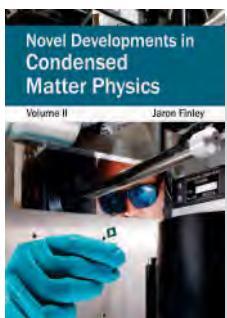
## Condensed Matter Physics

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## Novel Developments in Condensed Matter Physics: Volume I

Condensed matter physics is one of the most fertile and rapidly advancing branches of physics. It is considered a fuel for technical developments and interdisciplinary advancements. This book unites the global concepts and researches in an organized manner for a comprehensive understanding of the subject. It is a ripe text for all researchers, students, physicists, scientists or anyone else who is interested in acquiring a better knowledge of one of the upcoming fields of contemporary physics - Condensed Matter Physics.

# Physics



## Condensed Matter Physics

Jaron Finley

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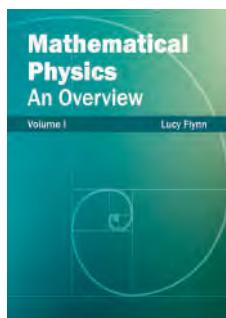
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## Mathematical Physics

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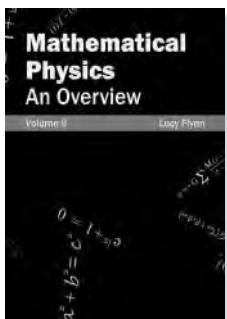
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## Novel Developments in Condensed Matter Physics: Volume II

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## Mathematical Physics: An Overview Volume I

This book aims to cover some of the most important topics in the field of mathematical physics. The book has been written by a group of international authors. All the topics have been presented in such a manner, that it will help researchers, students and professionals in the field. It contains some highly conceptual topics which will lay the foundation for experimental development in this field. For better understanding, complex topics have been presented independently for the perusal of students and experts alike.



## Mathematical Physics

Lucy Flynn

ISBN: 978-1-63238-317-4

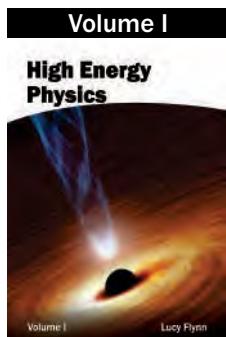
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## Particle Physics

Lucy Flynn

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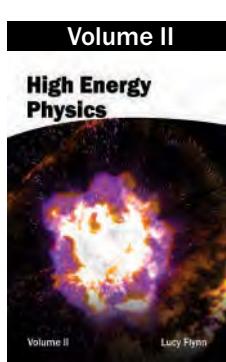
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## Particle Physics

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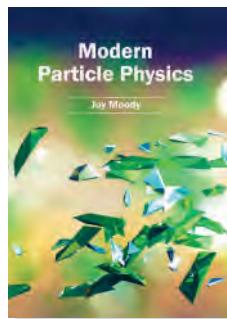
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## High Energy Physics

This set of two volumes attempts to understand the multiple branches and researches that fall under high energy physics and how such research has ramifications in our lives. The various projects that are constantly contributing towards advancing technologies and the evolution of this field are looked at in detail here. The career opportunities available to one in this field are explained in detail. Those in search of information to further their knowledge of this field will be assisted by this set.



## Particle Physics

**Joy Moody**

ISBN: 978-1-63238-333-4

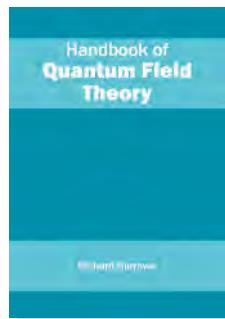
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## Quantum Field Theory

**Richard Burrows**

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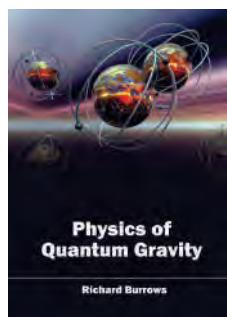
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## Modern Particle Physics

This book provides a comprehensive account on modern particle physics. Encouraged by the Large Hadron Collider and the search for the mysterious Higgs Boson, interest in this field continues to grow at a great level among general people and scientists. Theoretical aspects, with information elucidating the generation model and a charged Higgs Boson model as alternative scenarios to the Standard Model have been elucidated in this insightful book. Postulated axion photon interactions and related photon scattering in magnetized media have also been outlined. The intricacy of particle physics research requiring the synergistic integration of hardware, theory and computation has also been explained in terms of the e-science paradigm. Descriptions of potential radiation hazards related to significantly weak interacting neutrinos if produced in extensive amounts with future high-energy muon-collider facilities have also been highlighted in this book.



## Quantum Field Theory

**Richard Burrows**

ISBN: 978-1-63238-357-0

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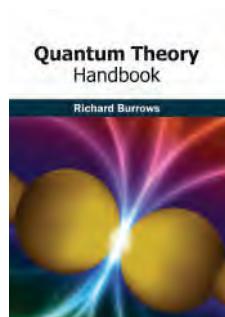
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## Handbook of Quantum Field Theory

The book provides state-of-the-art information describing the Quantum Field Theory. Quantum Field Theory is now identified as an effective tool not only in Particle Physics but also in Nuclear Physics, Condensed Matter Physics, Solid State Physics and even in Mathematics. This book is a compilation of some present applications of Quantum Field Theory to these mentioned fields of modern physics and mathematics, in order to give a more profound understanding of known facts and unsolved problems.



## Quantum Field Theory

**Richard Burrows**

ISBN: 978-1-63238-384-6

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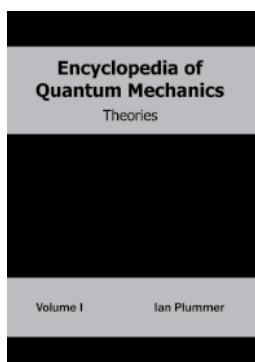
## Physics of Quantum Gravity

This book provides insight into major facets of the physics of quantum gravity. The application of quantum field theory for explaining gravity is one of the main problems in contemporary elementary Physics. It has been in existence for nearly a century, but a definite answer is yet to be determined. Loop quantum gravity and string theory have answered several answers associated with this problem, but they have brought with themselves a huge set of added questions. Apart from these two theories, several other alternative theories have also been developed over the decades. Renowned authors from across the globe have contributed in this book. The content provided in this book deals with gravity and its quantization through known and alternative methods in order to provide a better understanding on the quantum nature of gravity. Readers will find an extensive compilation of physical and mathematical concepts along with updated research regarding the challenging puzzle of quantum gravity in this book.

## Quantum Theory Handbook

This book presents an updated account of the research and development undergoing in the domain of quantum theory. Quantum theory is the primary theoretical approach that aids one to favorably understand the atomic and sub-atomic worlds which are too far from the cognition on the basis of general intuitions or experiences of daily-life. It is a very rational theory in which a balanced system of hypotheses and relevant mathematical methods facilitate exact explanation of the dynamics of quantum systems whose measurements are systematically influenced by objective uncertainties. Quantum theory has enabled us to apply and regulate novel quantum devices and technologies in quantum optics and lasers, quantum electronics, quantum computing and modern area of nanotechnologies.

## Quantum Mechanics



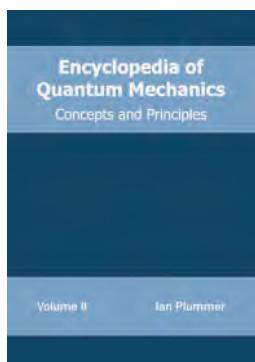
Ian Plummer

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### Volume I

#### **Encyclopedia of Quantum Mechanics: Theories**

This book provides important and relevant theories in quantum mechanics. Human understanding regarding the universe and nature driven forces have been thoroughly influenced by the Quantum theory as a scientific revolution. Possibly, the historical advancement of this concept mimics the history of human scientific endeavors from their birth. The book presents a valuable account of foundation, scientific history of the concept, distinct techniques to solve the Schrodinger equation, and relativistic quantum mechanics and field theory. Some of the important topics are complementarity in quantum mechanics & classical statistical mechanics, and theory of elementary particles based on Newtonian mechanics. The aim of this book is to serve as an efficient reference for researchers and students.



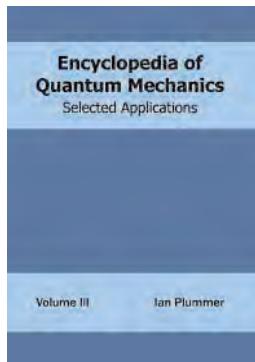
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### Volume II

#### **Encyclopedia of Quantum Mechanics: Concepts and Principles**

Human understanding regarding the universe and nature driven forces have been thoroughly influenced by the Quantum theory as a scientific revolution. Possibly, the historical advancement of this concept mimics the history of human scientific endeavors from their birth. The book presents a valuable account of foundation, scientific history of the concept, distinct techniques to solve the Schrodinger equation, and relativistic quantum mechanics and field theory. It includes important topics such as Bohmian Trajectories and the Path Integral Paradigm, Approximate Solutions of the Dirac Equation and Theoretical Validation of the Computational Unified Field Theory. The aim of this book is to serve as an efficient reference for researchers and students.



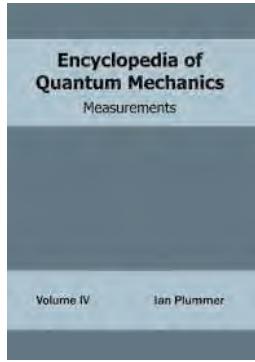
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### Volume III

#### **Encyclopedia of Quantum Mechanics: Selected Applications**

This book discusses the selected applications of quantum mechanics with the help of in-depth information. Quantum mechanics has found vital applications in numerous distinct fields within human knowledge ever since its discovery. The unique distinction of quantum mechanics is that it plays important roles in various diverse fields like solid state physics, biotechnology, nanotechnology, nuclear physics, crystallography, atomic and molecular spectroscopy and astrophysics among others. Authors from across the globe have contributed worthy information in this book to meet the emerging needs in this area. The aim of this book is to serve as a valuable source of reference for students and researchers.



Ian Plummer

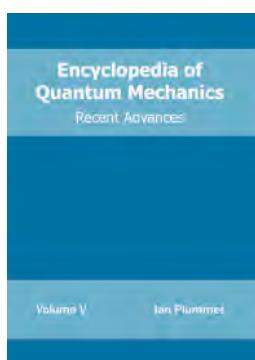
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### Volume IV

#### **Encyclopedia of Quantum Mechanics: Measurements**

This book presents a detailed account on the domain of measurements in quantum chemistry. Quantum mechanics is considered as one of the most exceptional development in 20th century physics. Every successful theory is exclusively concerned about "results of measurement". In measurement, quantum mechanics perspective is a stark contrast from classical physics because in the microscopic world of quantum mechanics, a direct measurement, like in classical forms, is impossible. Hence, measurement has posed significant challenges over the period of development of quantum mechanics. This book has been compiled by contributions from international experts and aims to clarify various interpretations about measurement in quantum mechanics.

## Quantum Mechanics



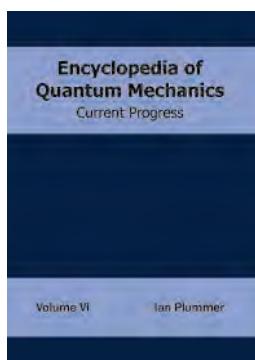
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### Volume V

#### **Encyclopedia of Quantum Mechanics: Recent Advances**

The advancement of quantum mechanics has given physics a completely new direction from that of classical physics in the early days. In fact, there is a constant development in this subject of a very fundamental nature, such as implications for the foundations of physics, physics of entanglement, geometric phases, gravity and cosmology and elementary particles as well. This book will be an important resource for researchers with respect to present topics of research in this developing area. The book addresses important subjects grouped under three sections: Classical-Quantum Correspondence, Schrödinger Equation and Path Integrals.



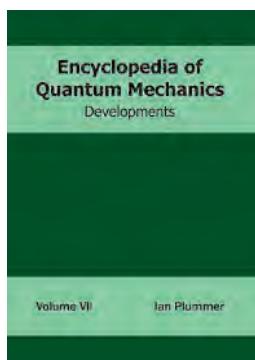
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### Volume VI

#### **Encyclopedia of Quantum Mechanics: Current Progress**

The advancement of quantum mechanics has given physics a completely new direction from that of classical physics in the early days. In fact, there is a constant development in this subject of a very fundamental nature, such as implications for the foundations of physics, physics of entanglement, geometric phases, gravity and cosmology and elementary particles as well. This book will be an important resource for researchers with respect to present topics of research in this developing area. The book covers two important sections: Perturbation Theory and Foundations of Quantum Mechanics.



Ian Plummer

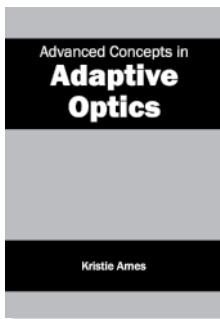
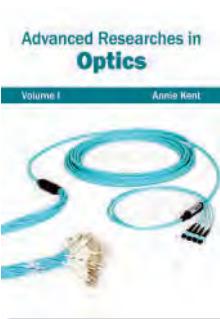
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### Volume VII

#### **Encyclopedia of Quantum Mechanics: Developments**

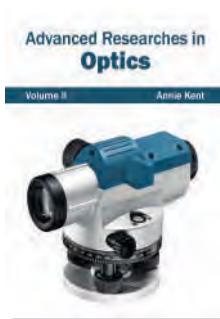
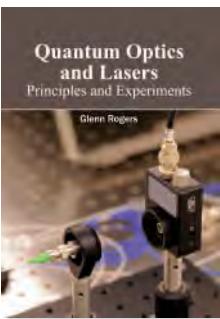
The advancement of quantum mechanics has given physics a completely new direction from that of classical physics in the early days. In fact, there is a constant development in this subject of a very fundamental nature, such as implications for the foundations of physics, physics of entanglement, geometric phases, gravity and cosmology and elementary particles as well. This book will be an important resource for researchers with respect to present topics of research in this developing area. The book has two broad sections: Quantization and Entanglement, and Quantum Information and Related Topics.

# Physics

Optics	Optics
 <p><b>Advanced Concepts in Adaptive Optics</b> Kristie Ames</p> <p>ISBN: 978-1-63238-011-1 \$125.00 US Year 2015 Book Size: 6"x9" 266pp./Colored Hardback</p>	 <p><b>Advanced Researches in Optics</b> Volume I Annie Kent</p> <p>ISBN: 978-1-63238-020-3 \$154.99 US Year 2015 Book Size: 8.5"x11" 213pp./Colored Hardback</p>

## Advanced Concepts in Adaptive Optics

Advanced optics is a technique employed to enhance the performance of optical systems through reduction of the impact of wave-front distortions. Developments in adaptive optics technology and applications have moved ahead at a fast pace. The general idea of wavefront compensation in real-time has been present since the mid-1970s. The first broadly employed application of adaptive optics was for compensating atmospheric turbulence effects in astronomical imaging and laser beam propagation. Whereas some topics have undergone research for years, even decades, new developments and applications in the supporting technologies keep emerging almost every day. This book is a compilation of contributions made by authors from across the world. The topics covered in this book are adaptive optics and the human eye, image post-processing, atmospheric turbulence characterization, deformable mirrors, high power laser distortion compensation, astronomy with huge telescopes, and wave-front sensors among others. Descriptive information on all these topics has been provided in this book.

Optics	Quantum Optics
 <p><b>Advanced Researches in Optics</b> Volume II Annie Kent</p> <p>ISBN: 978-1-63238-021-0 \$154.99 US Year 2015 Book Size: 8.5"x11" 216pp./Colored Hardback</p>	 <p><b>Quantum Optics and Lasers</b> Principles and Experiments Glenn Rogers</p> <p>ISBN: 978-1-63238-383-9 \$95.00 US Year 2015 Book Size: 6"x9" 191pp./Colored Hardback</p>

## Advanced Researches in Optics: Volume II

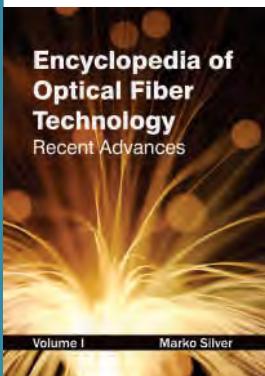
This book will serve as a comprehensive technical guide, covering fundamentals, recent advances and issues in the field of optics. The chapters in this book have been written by highly professional authors. This book contains valuable information, which will assist a wide range of readers in practical applications. It also talks about the optical tools, which are used to study light, characteristics of light and different types of fibres. The objective of the book is to serve as a valuable reference for students, educators, scientists, faculty members, researchers, engineers and research strategists in the rapidly evolving field of optics.

## Advanced Researches in Optics: Volume I

This book will serve as a comprehensive technical guide, covering fundamentals, recent advances and issues in the field of optics. The chapters in this book have been written by highly professional authors. This book contains valuable information, which will assist a wide range of readers in practical applications. It also talks about the optical tools, which are used to study light, characteristics of light and different types of fibres. The objective of the book is to serve as a valuable reference for students, educators, scientists, faculty members, researchers, engineers and research strategists in the rapidly evolving field of optics.

## Quantum Optics and Lasers: Principles and Experiments

This book covers a wide spectrum of complications and principles related to the concepts of Quantum Optics and Laser Experiments. These dynamically growing branches of physics are of extreme importance both for theoretical comprehension of the quantum nature of optical phenomena as well as its practical applications. The book consists of theoretical contributions related to such problems like a general method to elucidate electromagnetic field states with correlation functions of distinct nature, photon localization, mathematical setup required for field state rebuilding on the basis of limited set of observables, non-classical characteristics of some superpositions of field states in time-varying media, and quantum electrodynamics procedures in powerful fields provided by pulsed laser beams. Experimental contributions have been discussed regarding few quantum optics processes in photonic crystals – media with spatially adjusted dielectric properties – as well as topics regarding the creation of cloud of cold atoms in magneto optical trap.



**Marko Silver**

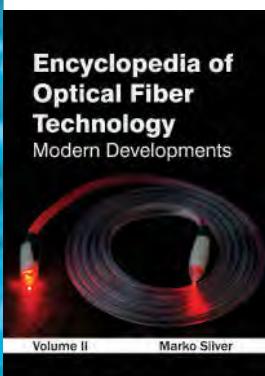
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## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Recent Advances Volume I**

This book provides an extensive analysis of the recent developments and progress made in optical fiber technology highlighting the newest range of optical communication, system and network, sensor, laser, measurement, characterization and devices. It gives emphasis to topics such as optical fiber communication systems and networks, and plastic optical fibers technologies. The chapters within this book have been contributed by prominent academicians and scientists involved in state of the art research in the field of photonics. This work will serve as a reference for readers from both academics and industrial backgrounds.



**Marko Silver**

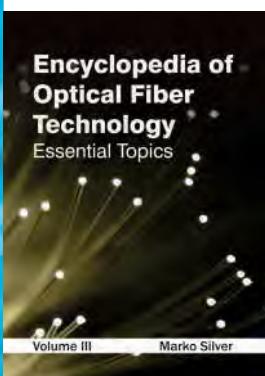
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## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Modern Developments Volume II**

This book compiles work which presents recent developments and progress made in optical fiber technology regarding newest range of optical communication, system and network, sensor, laser, measurement, characterization and devices. It gives emphasis to topics such as fiber lasers and fiber optic sensors, fiber measurement techniques, and fiber optic devices on silicon chips. The chapters within this book have been contributed by prominent academicians and scientists involved in state of the art research in the field of photonics. This work will serve as a reference for readers from both academics and industrial backgrounds.



**Marko Silver**

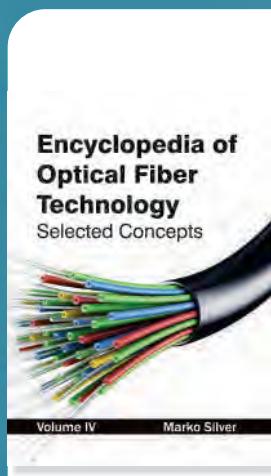
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## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Essential Topics Volume III**

This book focuses on the new advances in the field of optical fiber technology. It covers variety of topics about different aspects of this technology. The book includes study in the fields of fiber lasers, and optical fiber applications in spectroscopy, measurement, imaging and medical. It aims to facilitate industrial users and researchers in their research activities by highlighting ongoing developments in optical fiber applications.



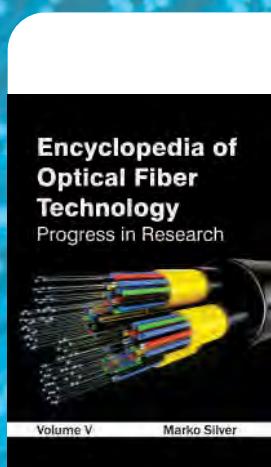
**Marko Silver**

ISBN: 978-1-63238-148-4  
\$110.00 US  
Year 2015  
Book Size: 6"x9"  
258pp./Colored  
Hardback

## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Selected Concepts Volume IV**

This book focuses on current research and new advances in the field of optical fiber technology. It covers variety of topics about different aspects of the technology. The book includes study in the fields of new optical fibers and sensors. It aims to facilitate industrial users and researchers in their research activities by highlighting ongoing developments in optical fiber applications, fiber lasers and sensors.



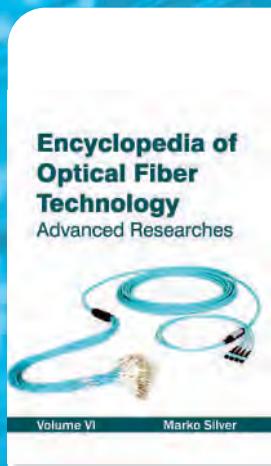
**Marko Silver**

ISBN: 978-1-63238-149-1  
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Year 2015  
Book Size: 6"x9"  
203pp./Colored  
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## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Progress in Research Volume V**

This book presents up to date information and latest developments in optical fiber research. It discusses various topics such as new applications for optical fibers; and nonlinear and polarization effects in optical fibers. It presents detailed study of nonlinear effects in optical fibers in terms of experiments, applications and theoretical analysis. It further discusses fiber birefringence effects, chromatic dispersion and polarization dependent losses in optical fibers, spun fibers and polarization mode dispersion. This book includes contributions by eminent scientists and practitioners having vast knowledge and experience in the field of optics. The book provides latest developments in optical fiber research for the benefit of researchers, students and industrial users associated with the field of optical fiber technologies.



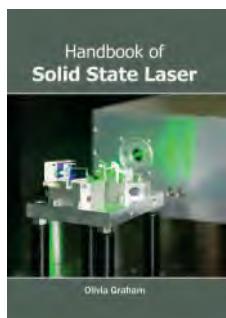
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ISBN: 978-1-63238-150-7  
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## Optical Fiber

### **Encyclopedia of Optical Fiber Technology: Advanced Researches Volume VI**

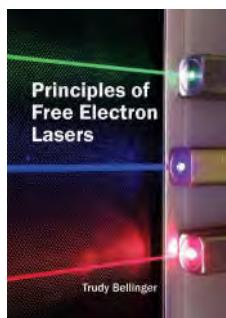
This book provides extensive information and the latest developments in optical fiber research. It presents detailed study of new trend of optical fiber applications and photonic crystal fibers. This book includes contributions by eminent scientists and practitioners having vast knowledge and experience in the field of optics and photonics. The book provides latest developments in optical fiber research for the benefit of researchers, students and industrial users associated with the field of optical fiber technologies.



## Lasers

### Olivia Graham

ISBN: 978-1-63238-280-1  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
251pp./Colored  
Hardback



## Lasers

### Trudy Bellinger

ISBN: 978-1-63238-375-4  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
262pp./Colored  
Hardback

## **Handbook of Solid State Laser**

The aim of this book is to provide advanced up-to-date information regarding solid state laser. It covers the experimental as well as theoretical characteristics of solid-state lasers, comprising of optimum waveguide design of diode pumped and end pumped lasers. In this book, topics like chirped pulse oscillators, up frequency conversions and nonlinear conversions have been covered along with a few recent rare-earth-doped lasers, inclusive of halide and double borate crystals. It also covers the feedback in quantum dot semiconductor nanostructures.

## **Principles of Free Electron Lasers**

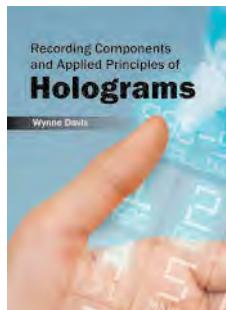
This book elucidates the principles of free electron lasers with the help of valuable information. It talks about the basics and patterns of different free electron laser systems, ranging from infrared to XUV wavelength regimes. Besides discussing and comparing with traditional lasers, matters like near-field and cavity electrodynamics, compact and table-top arrangements and strong radiation induced exotic states of matter have also been assessed. The management and evaluation of such instruments and radiation safety problems have also been described. This book presents a set of research results on these sources of radiation, relating to primary principles, applications and some recent captivating ideas of current interest.



## Holography

### Wynne Davis

ISBN: 978-1-63238-111-8  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
386pp./Colored  
Hardback



## Holography

### Wynne Davis

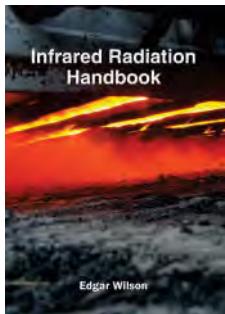
ISBN: 978-1-63238-398-3  
\$154.99 US  
Year 2015  
Book Size: 6"x9"  
397pp./Colored  
Hardback

## **Current Research in Holography: Imaging and Metrology**

An elucidative and advanced study regarding holography imaging and metrology has been provided in this book. It covers digital holographic microscopy and interferometry, inclusive of interferometry in the infra-red. Other subjects comprise of synthetic imaging, the application of reflective spatial light modulators for writing dynamic holograms and image display using holographic screens. Holography is talked about as a means of artistic display and the book offers applications of software for the acquisition of skills in optics and holography. It presents an all-inclusive introduction to their specific topics, with a survey of developments to date.

## **Recording Components and Applied Principles of Holograms**

Applied principles as well as recording components of holograms are elaborated in this up-to-date book. It presents an overview on current developments in the advancement of a broad range of holographic recording substances comprising of ionic liquids in photopolymerisable materials, azo-dye containing materials, porous glass and polymer composites, amorphous chalcogenide films, Norland optical adhesive as holographic recording material and organic photochromic materials. Comprehensive evaluation of collinear holographic information storage and polychromatic rebuilding for volume holographic memory has also been discussed. New holographic devices, as well as utilization of holograms in security and signal processing have also been presented in this book.



## Infrared Technology

**Edgar Wilson**

ISBN: 978-1-63238-294-8

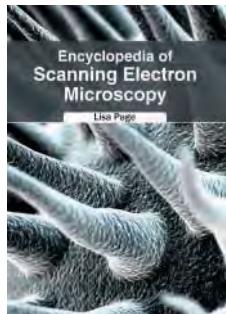
\$110.00 US

Year 2015

Book Size: 6"x9"

225pp./Colored

Hardback



## Microscopy

**Lisa Page**

ISBN: 978-1-63238-166-8

\$145.00 US

Year 2015

Book Size: 6"x9"

322pp./Colored

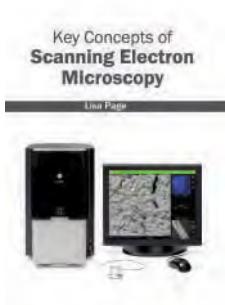
Hardback

## Infrared Radiation Handbook

Infrared radiation is basically a type of electromagnetic radiation which involves waves. This book provides a set of scientific study works which talk about the area of infrared radiation. This book presents elaborated knowledge about recent scientific studies and engineering advances in this field. The content has been thoroughly analyzed and offers considerable amount of information to the readers interested in this domain. This book will be useful to the developers of infrared methods, technicians using infrared tools and researchers who have interest in infrared radiation and its interaction with medium. Furthermore, this book will be beneficial to both undergraduate and postgraduate students interested in studying about this technique and also to multifunctional workers of this field.

## Encyclopedia of Scanning Electron Microscopy

This book focuses on various issues concerned with scanning electron microscopy, as well as its theoretical and practical applications. Fine focused electron and ion beams constitute(s) an inevitable part of methods and instruments employed in various science fields. SEMs are well instrumented and supplemented with advanced techniques and methods and thereby present endless possibilities in the areas of quantitative measurement of object topologies, surface imaging, performing elemental analysis and local electrophysical characteristics of semiconductor structures. Creation of micro and nanostructures involves extensive use of fine focused e-beam. Numerous topics are covered under two sections "Instrumentation, Methodology" and "Biology, Medicine" for electronic industry. This book includes contributions by renowned researchers and experts in this field.



## Microscopy

**Lisa Page**

ISBN: 978-1-63238-306-8

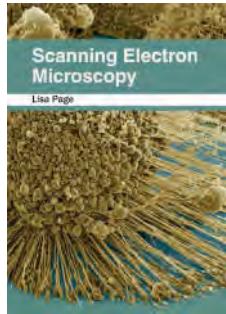
\$110.00 US

Year 2015

Book Size: 6"x9"

254pp./Colored

Hardback



## Microscopy

**Lisa Page**

ISBN: 978-1-63238-406-5

\$125.00 US

Year 2015

Book Size: 6"x9"

290pp./Colored

Hardback

## Key Concepts of Scanning Electron Microscopy

This book on scanning electron microscopy examines the key concepts employed in the field. Fine focused electron and ion beams constitute(s) an inevitable part of methods and instruments employed in various science fields. SEMs are well instrumented and supplemented with advanced techniques and methods and thereby present endless possibilities in the areas of quantitative measurement of object topologies, surface imaging, performing elemental analysis and local electrophysical characteristics of semiconductor structures. Creation of micro and nanostructures involves extensive use of fine focused e-beam. This book focuses on various issues concerned with scanning electron microscopy, covering both theoretical and practical applications. It further includes numerous topics on geoscience, instrumentation, mineralogy, thin films, biology, ceramic and materials for electronic industry. This book includes contributions by renowned researchers and experts in this field.

## Scanning Electron Microscopy

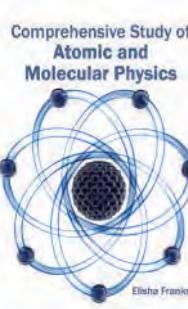
Fine focused electron and ion beams constitute(s) an inevitable part of methods and instruments employed in various science fields. SEMs are well instrumented and supplemented with advanced techniques and methods and thereby present endless possibilities in the areas of quantitative measurement of object topologies, surface imaging, performing elemental analysis and local electrophysical characteristics of semiconductor structures. Creation of micro and nanostructures involves extensive use of fine focused e-beam. This book focuses on various issues concerned with scanning electron microscopy, covering both theoretical and practical aspects. Numerous topics are organized under two sections, "Material Science" and "Nanostructured Materials for Electronic Industry". This book includes contributions by renowned researchers and experts in this field.



## Spectroscopy

**Hugo Kaye**

ISBN: 978-1-63238-465-2  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
292pp./Colored  
Hardback



## Nuclear Technology

**Elisha Franks**

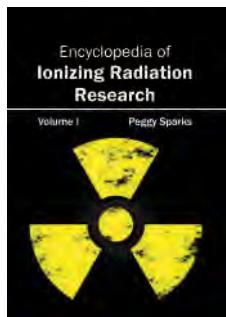
ISBN: 978-1-63238-087-6  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
215pp./Colored  
Hardback

## X-Ray Spectroscopy

Advanced information regarding the topic of x-ray spectroscopy has been described in this book. X-ray is the only invention that became a routine diagnostic tool in hospitals within a week of its first observation by Roentgen in 1895. Till date, x-ray technology serves as an excellent characterization tool for scientists engaged in nearly all fields, including physics, space science, medicine, archeology, medicine, chemistry, metallurgy, and material science. With an already extensive range of existing applications of x-rays, it comes as a surprise that every day people are discovering novel applications of x-rays or developing the existing methods. The book has been compiled with selective information regarding the current applications of x-ray spectroscopy which are of significant interest to the engineers and scientists engaged in the fields of astrophysics, material science, astrochemistry, chemistry, instrumentation, physics, and methods of x-ray based characterization. The book elucidates fundamental principles of satellite x-rays as characterization devices for the physics of detectors, chemical properties and x-ray spectrometer. It also elucidates techniques like EPMA, EDXRF, satellites, WDXRF, particle induced XRF, matrix effects, and micro-beam analysis. The characterization of ceramic materials and thin films with the help of x-rays has also been described.

## Comprehensive Study of Atomic and Molecular Physics

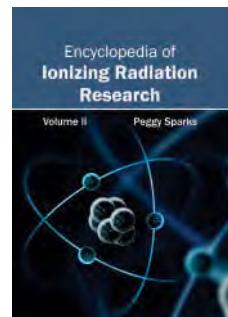
This book focuses on the various new and current researches being done in the field of atomic and molecular physics. The many different branches that offer exciting new research opportunities are discussed in detail and their future prospects are built up. The debates and advancements in research methodologies are explained in detail. Budding physicists, researchers and students will benefit by the various topics detailed in this book.



## Radioactivity

**Peggy Sparks**

ISBN: 978-1-63238-141-5  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
308pp./Colored  
Hardback



## Radioactivity

**Peggy Sparks**

ISBN: 978-1-63238-142-2  
\$125.00 US  
Year 2015  
Book Size: 6"x9"  
270pp./Colored  
Hardback

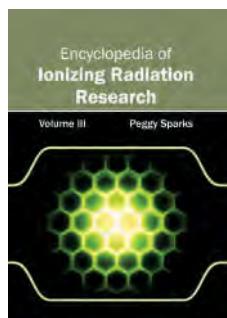
## Encyclopedia of Ionizing Radiation Research: Volume I

X-rays were discovered by Roentgen in 1895, and ever since, the ionizing radiation has been largely used in various industrial as well as medical applications. However, its harmful effects are gradually recognized through accidental uses. The experience of nuclear power plant mishaps in Fukushima and Chernobyl, has unveiled the risk of ionizing radiation and its prevalence in our contemporary society. Therefore, it is extremely necessary that more engineers, students and scientists become known to ionizing radiation research regardless of the research field they are engaged in. On the basis of this idea, this book was formulated to analyze the current achievements in this field inclusive of molecular and biological processes.

## Encyclopedia of Ionizing Radiation Research: Volume II

X-rays were discovered by Roentgen in 1895, and ever since, the ionizing radiation has been largely used in various industrial as well as medical applications. However, its harmful characteristics are gradually recognized through accidental uses. The experience of nuclear power plant mishaps in Fukushima and Chernobyl, has unveiled the risk of ionizing radiation and its prevalence in our contemporary society. Therefore, it is extremely necessary that more engineers, students and scientists become known to ionizing radiation research regardless of the research field they are engaged in. On the basis of this idea, this book was formulated to analyze the current achievements in this field inclusive of medical uses, principles of radiation measurement, and its impact on health.

# Physics



## Radioactivity

### Peggy Sparks

ISBN: 978-1-63238-143-9

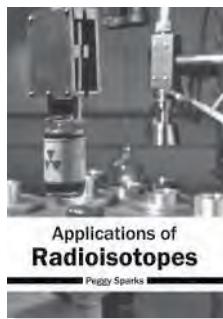
\$125.00 US

Year 2015

Book Size: 6"x9"

298pp./Colored

Hardback



## Isotopes

### Peggy Sparks

ISBN: 978-1-63238-052-4

\$110.00 US

Year 2015

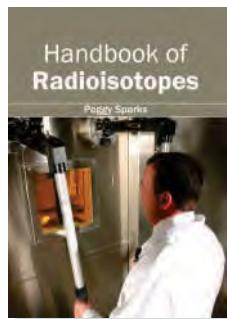
Book Size: 6"x9"

216pp./Colored

Hardback

## Encyclopedia of Ionizing Radiation Research: Volume III

X-rays were discovered by Roentgen in 1895, and ever since, the ionizing radiation has been largely used in various industrial as well as medical applications. However, its harmful impact is gradually recognized through accidental uses. The experience of nuclear power plant mishaps in Fukushima and Chernobyl, has unveiled the risk of ionizing radiation and its prevalence in our contemporary society. Therefore, it is extremely necessary that more engineers, students and scientists become known to ionizing radiation research regardless of the research field they are engaged in. On the basis of this idea, this book was formulated to analyze the current achievements in this field inclusive of "Detection and measurement" and "Effects on Materials".



## Isotopes

### Peggy Sparks

ISBN: 978-1-63238-277-1

\$125.00 US

Year 2015

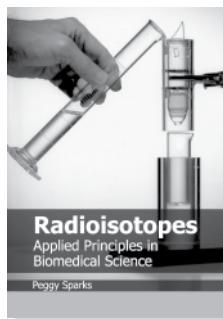
Book Size: 6"x9"

302pp./Colored

Hardback

## Applications of Radioisotopes

This book is an essential read on radioisotopes. Radioisotopes can be utilized as an alternative for heat conversion into electricity. This is an extensive book which covers various topics related to the physical aspects of radioisotopes and their various applications in some physical and chemical processes. This book will appeal to a broad spectrum of readers interested in the subject of radioisotopes.



## Isotopes

### Peggy Sparks

ISBN: 978-1-63238-385-3

\$145.00 US

Year 2015

Book Size: 6"x9"

335pp./Colored

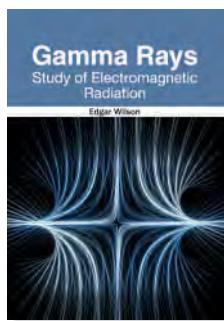
Hardback

## Handbook of Radioisotopes

This is an extensive book which covers various topics related to the field of radioisotopes, like radioisotopes in environment and radioisotopes in power system space applications. The first section covers the applications of radioisotopes in environment with interesting research related to soil; water; environmental dosimetry and composition analyzer. The next section focuses on radioisotopes in power systems which generate electrical power by converting heat released from the nuclear decay of radioactive isotopes. This book will appeal to a broad spectrum of readers interested in radioisotopes.

## Radioisotopes: Applied Principles in Biomedical Science

The book concentrates primarily on radioisotopes and its applications in bioscience and in medical sciences. This book elucidates creation of radioisotopes for medicine, the usage of radioisotopes in various fields, the utilization of radiation in drug research, among others. Topics like 3D and computed tomography (CT) scan, SS nuclear medicine in imaging, detection and management of cancer, and various other topics are also discussed. This book will benefit clinicians and researchers dealing with the various applications of radioisotopes.



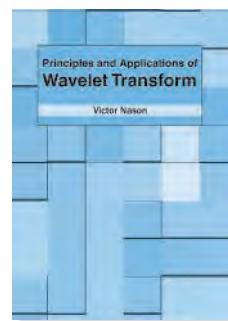
## Electromagnetic Radiation

**Edgar Wilson**

ISBN: 978-1-63238-212-2  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
332pp./Colored  
Hardback

## Gamma Rays: Study of Electromagnetic Radiation

This is an insightful book based on the study of electromagnetic radiations. It throws light on the characteristics and nature of gamma radiations. It also highlights the various options of gamma radiation application in fields like nuclear physics, industrial procedures, environmental science, radiation biology, radiation chemistry, agriculture and forestry, sterilization and food industry. Analysis of the pros and cons of functioning of these applications has also been discussed. The book mainly targets anyone who are engaged in any field related to gamma radiations, ranging from industrial workers and biologists to dentists and engineers and even those people who have a fascination towards this subject. Moreover, this book can also be used as a guide for diverse readers who are interested in the subject.



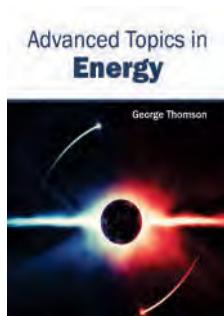
## Wavelets

**Victor Nason**

ISBN: 978-1-63238-371-6  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
311pp./Colored  
Hardback

## Principles and Applications of Wavelet Transform

Significant applications of wavelet transforms in geoscience and biology have been elucidated in this book. Wavelet transforms are one of the most primary candidates in time-frequency transformations. These include application of wavelet transforms in the treatment of EEG signals, biometric recognition and validation, and dimensionality reduction of the gait identification framework. It also elucidates the applications of wavelet transforms in the study of data gathered from sports and breast cancer. The denoting process has been evaluated within the domain of wavelet transform and applied on data garnered from real world applications.



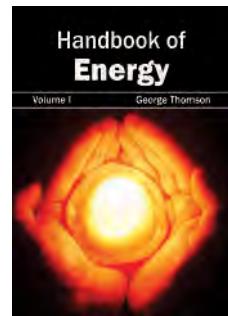
## Energy

**George Thomson**

ISBN: 978-1-63238-024-1  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
213pp./Colored  
Hardback

## Advanced Topics in Energy

This book is produced to lay a foundation for students and researchers across the globe, in the field of energy research and energy conservation. Also the book will provide the readers with a closer look in the techniques of energy conversions; to help them get a clear idea of different forms of energy; which will in-turn help them solve more scientific problems in other fields too. This book does not aim at only one topic, it is a combination of lots of inter-connected fields of studies, but they all are unified with one main aspect, energy.



## Energy

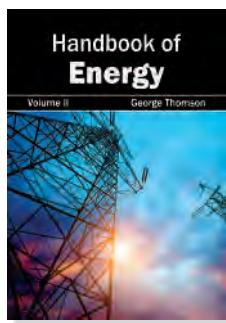
**George Thomson**

ISBN: 978-1-63238-242-9  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
212pp./Colored  
Hardback

## Handbook of Energy: Volume I

This book illustrates the different forms of energy, their advancement and the recently discovered sources of energy. Energy is a prerequisite for every economy. Thus, constant research is taking place across the globe to explore new and sustainable forms and sources to fulfil the worldwide requirement. This book collates such researches and data to provide an up-to-date text for experts and students.

# Physics



## Energy

### George Thomson

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## Handbook of Photoenergy



## Photoenergy

Anderson Shields

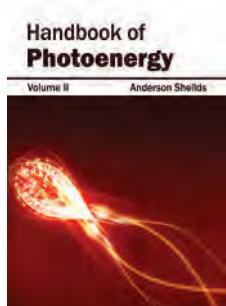
ISBN: 978-1-63238-263-4  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
214pp./Colored  
Hardback

### Handbook of Energy: Volume II

This book illustrates the different forms of energy, their advancement and the recently discovered sources of energy. Energy is a pre-requisite for every economy. Thus, constant research is taking place across the globe to explore new and sustainable forms and sources to fulfil the worldwide requirement. This book collates such researches and data to provide an up-to-date text for experts and students.

### Handbook of Photoenergy: Volume I

Photoenergy has given a new direction to sustainable energy. The new and advanced technologies have simplified the procedures of extracting energy from light. This book aims to understand such procedures, concepts and researches which will eventually transform our lives. The various studies which are helping this discipline to evolve and progress are also delved into in this book. Researchers, students, scientists and everyone associated with the field of photoenergy will benefit from this book.



## Photoenergy

### Anderson Shields

ISBN: 978-1-63238-264-1  
\$154.99 US  
Year 2015  
Book Size: 8.5"x11"  
215pp./Colored  
Hardback



## Fluid Dynamics

### Maria Forest

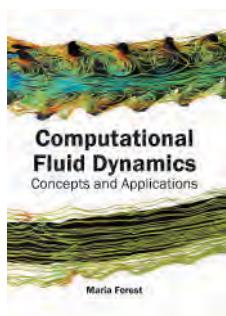
ISBN: 978-1-63238-015-9  
\$145.00 US  
Year 2015  
Book Size: 6"x9"  
312pp./Colored  
Hardback

### Handbook of Photoenergy: Volume II

Photoenergy has given a new direction to sustainable energy. The new and advanced technologies have simplified the procedures of extracting energy from light. This book aims to understand such procedures, concepts and researches which will eventually transform our lives. The various studies which are helping this discipline to evolve and progress are also delved into in this book. Researchers, students, scientists and everyone associated with the field of photoenergy will benefit from this book.

### Advanced Fluid Dynamics and its Models

Fluid dynamics is the sub-specialty of fluid mechanics dealing with the study of fluids in motion. This book demonstrates essential developments and applications in fluid dynamics modeling with emphasis on biomedical, bioengineering, chemical, civil and environmental engineering, aeronautics, astronautics, and automotive. This book will prove to be a valuable resource to scientists and engineers engaged in the study of fundamentals and applications of fluid dynamics.



## Fluid Dynamics

**Maria Forest**

ISBN: 978-1-63238-088-3

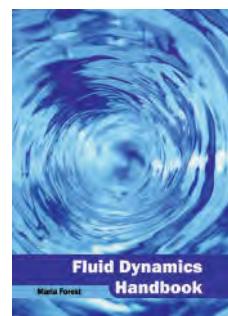
\$154.99 US

Year 2015

Book Size: 6"x9"

356pp./Colored

Hardback



## Fluid Dynamics

**Maria Forest**

ISBN: 978-1-63238-198-9

\$125.00 US

Year 2015

Book Size: 6"x9"

284pp./Colored

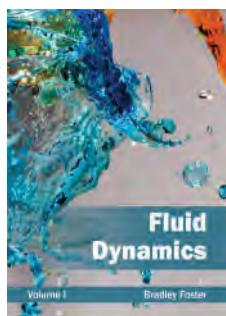
Hardback

## Computational Fluid Dynamics: Concepts and Applications

This book discusses essential elements of computational fluid dynamics like cooling system design, flow modeling in sedimentation, hypersonic aerodynamics, air conditioning system, greenhouse environment, photochemical reaction engineering, hydraulic component design, fluid-structure interaction and atmospheric reentry problem. It will be accessible to advanced scientists and research engineers who are attempting to sharpen their computational fluid dynamics skills.

## Fluid Dynamics Handbook

Fluid dynamics is the sub-specialty of physics dealing with the study of flowing fluids. This book consists of various issues regarding fluid dynamics which will be of interest for scientists and researchers. Through the chapters included in this book, it intends to help its readers to advance their expertise in analyzing fluid dynamics as encountered in engineering fields.



## Fluid Dynamics

**Bradley Foster**

ISBN: 978-1-63238-199-6

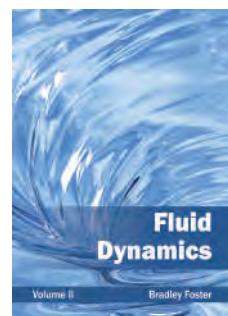
\$154.99 US

Year 2015

Book Size: 8.5"x11"

219pp./Colored

Hardback



## Fluid Dynamics

**Bradley Foster**

ISBN: 978-1-63238-200-9

\$154.99 US

Year 2015

Book Size: 8.5"x11"

219pp./Colored

Hardback

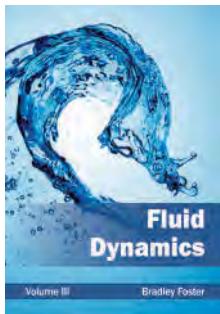
## Fluid Dynamics: Volume I

This book is an essential guide for those who're interested in fluid dynamics. The researches included in this book are bound to provide incredible insights to readers. Written in a lucid language, with numerous illustrations and diagrams, this book is easily comprehensible and a reader-friendly text. Various latest researches have also been included to help experts and students stay up-to-date with the advanced and innovative concepts of the discipline.

## Fluid Dynamics: Volume II

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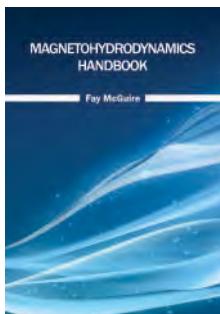
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## Magnetohydrodynamics Handbook

Magnetohydrodynamics is the study of dynamics of electrically conducting liquids. Therefore, for an in-depth comprehension of plasma physics, one must be well acquainted with magnetohydrodynamics (MHD) behaviors. With progresses in science, a gap between state-of-the-art researches and published textbooks slowly develops. An interrelation between textbook knowledge and updated research results can often be hard to develop. Review articles can be of significant help in such cases. For magnetically restricted fusions, toroidal magnetohydrodynamics theory for tokamaks, magnetic relaxation procedure in spheromaks, and the creation and stability of field-reversed configuration have been provided in this book. In-depth descriptions of X-ray jets physics and solar spicules, along with sub-fluid theory have been covered from the vast domain of space plasma physics. For numerical techniques, the definite numerical techniques for resistive MHD and the boundary control formalism have also been provided in this book. Theory of Newtonian and non-Newtonian fluids has also been presented in this book for comprehending low temperature plasma physics.

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