M. E. Himmel, National Renewable Energy Laboratory, Golden, CO, USA (Ed)

Biomass Conversion
Methods and Protocols

Contents

Fields of interests
Biotechnology; Biochemical Engineering

Target groups
Professional/practitioner

Product category
Contributed volume

K. K. Jain, Jain PharmaBiotech, Basel, Switzerland (Ed)

The Handbook of Nanomedicine

Nanomedicine is defined as the application of nanobiotechnology in clinical medicine, which is currently being used to research the pathomechanism of disease, refine molecular diagnostics, and aid in the discovery, development, and delivery of drugs. In The Handbook of Nanomedicine, Second Edition, Prof. Kewal K. Jain updates, reorganizes, and replaces information in the comprehensive first edition in order to capture the most recent advances in this dynamic field.

Features
- Features crucial updates to the detailed and valuable first edition
- Serves as a concise, comprehensive, and useful source of nanomedical information
- Contains voluminous references to other helpful works on the relevant subject matter

Contents

Fields of interests
Biotechnology; Nanotechnology

Target groups
Professional/practitioner

Product category
Monograph

M. F. Ladd, University of Surrey, Guildford, UK; R. A. Palmer, University of London, UK

Structure Determination by X-Ray Crystallography

The advances in and applications of x-ray and neutron crystallography form the essence of this new edition, while maintaining the overall plan of the book that has been well received in the academic community since the first edition in 1977. X-ray crystallography is a universal tool for studying molecular structure, and the complementary nature of neutron diffraction crystallography permits the location of atomic species in crystals which are not easily revealed by x-ray techniques alone, such as hydrogen atoms or other light atoms in the presence of heavier atoms.

Features
- Most thorough treatment of crystal geometry and symmetry of any book on the market
- Sound theoretical underpinning
- Practical approach to the subject
- Structure determination by powder methods and by neutron diffraction
- Discussion of computational methods of structure determination, including a suite of computer programs

Contents

Fields of interests
Crystallography; Physical Chemistry; Protein Structure

Target groups
Research

Product category
Monograph

News 5/2012

Due July 2012

2012. XIV, 308 p. 72 illus., 33 in color. (Methods in Molecular Biology, Volume 908) Hardcover
- *€ (D) 96,25 | € (A) 98,95 | sFr 117,50
- approx. € 89,95 | £79.50
ISBN 978-1-61779-955-6

Due July 2012

2nd ed. 2012. XVIII, 530 p. 20 illus., 14 in color. Hardcover
- *€ (D) 139,05 | € (A) 142,94 | sFr 173,00
- approx. € 129,95 | £117.00

Due July 2012

- *€ (D) 149,75 | € (A) 153,94 | sFr 183,00
- approx. € 139,95 | £106.50

Humana Press

Humana Press
Electrochemistry of Insertion Materials for Hydrogen and Lithium

The understanding of hydrogen/lithium insertion phenomena is of great importance for the development of the next generation of functional electrochemical devices such as rechargeable batteries, electrochromic devices, and fuel cells. This volume introduces a variety of viable electrochemical methods to identify reaction mechanisms and evaluate relevant kinetic properties of insertion electrodes.

Features
- The first monograph on the electrochemistry of insertion electrodes used for rechargeable batteries, and electrical displays
- The authors contributed significantly to the understanding of these phenomena
- Consistent style of presentation

Contents

Fields of interest
Electrochemistry; Condensed Matter Physics; Power Electronics, Electrical Machines and Networks

Target groups
Research

Product category
Monograph

Due July 2012
2012. X, 266 p. 134 illus., 5 in color. (Monographs in Electrochemistry) Hardcover
► approx. * € (D) 106,95 | € (A) 109,95 | sFr 133,50
► approx. € 99,95 | £90.00
ISBN 978-3-642-29463-1
C. G. Vayenas, S. N.-A. Souentie, University of Patras, Greece

**Gravity, Special Relativity, and the Strong Force**

A Bohr-Einstein-de Broglie Model for the Formation of Hadrons

This book shows that the strong interaction forces, which keep hadrons and nuclei together, are relativistic gravitational forces exerted between very small particles in the mass range of neutrinos.

**Features**
- First book to present the Bohr-Einstein-de Broglie approach to the formation of hadrons and nuclei
- Demonstrates that strong forces are relativistic gravitational forces
- Explains asymptotic freedom

**Contents**
1905-1930: The golden age of physics.- Mass, special relativity and the equivalence principle.- The strong force: From quarks to hadrons and nuclei.- The world of particles and the standard model.- The equivalence principle, special relativity and Newton's gravitational law.- The three and two rotating neutrino models: Particle confinement by gravity.- Energy and other properties of the rotational states.- Gravitational hadronization: How mass can be produced from gravity.- Model comparison with the main experimental features of the strong interaction force.- The Bohr-de Broglie approach in physics: The dual nature of matter.- Gravity at relativistic velocities and dark matter.- Force unification: Is the strong force simply gravity?.

**Fields of interests**
Physical Chemistry; Atomic, Molecular, Optical and Plasma Physics; Classical and Quantum Gravitation, Relativity Theory

**Target groups**
Research

**Product category**
Monograph

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B.-C. Ye, M. Zhang, B.-C. Yin, East China University of Science & Technology, Shanghai, China

**Nano-Bio Probe Design and Its Application for Biochemical Analysis**

In this volume, Prof. Ye and his coworkers propose and review the concept of nano-bio probe design for biochemical analysis on the basis of their recent published works. A unique biochemical analysis technology based on fluorescence polarization enhanced by nanoparticles is described here with successful applications in environmental monitoring, rapid and sensitive sensing protease activity and high-throughput screening of inhibitors. Furthermore, they introduce a versatile molecular beacon (MB)-like probe for the multiplex sensing of targets such as sequence-specific DNA, protein, metal ions and small molecule compounds based on the self-assembled biomolecule-graphene conjugates. Besides, some colorimetric and luminescence probes utilizing metal nanoparticles for biochemical applications are also presented, such as chiral enantiomer discrimination and separation, environmental monitoring, clinic diagnosis and etc.

**Contents**

**Fields of interests**
Biochemical Engineering; Nanotechnology; Biochemistry, general

**Target groups**
Research

**Product category**
Brief

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Due July 2012

2012. XVIII, 150 p. 42 illus. Hardcover
- approx. *€ (D) 149.75 | € (A) 153.94 | sFr 201.00
- approx. *€ 139.95 | £126.50
ISBN 978-1-4614-3935-6

Due May 2012

2012. VIII, 77 p. 22 illus., 19 in color. (SpringerBriefs in Molecular Science) Softcover
- *€ (D) 53.45 | € (A) 54.95 | sFr 66.50
- *€ 49.95 | £44.99
ISBN 978-3-642-29542-3