



Manuals in Biomedical Research – Vol. 5

## A MANUAL FOR LABORATORY ANIMAL MANAGEMENT

by **Jonathan David Ward** (*Biomedical Research Consultants Pte Ltd & Singapore Association for Laboratory Animal Science, Singapore*)

Laboratory animal research remains a very important part of basic research and drug development. With the worldwide increase in biotechnology, more and more researchers are required to use animals for research. However, many have basic or little training in experimental techniques or in the background information, which remains very important. This book rectifies the problem by providing animal researchers and technicians with the essentials for conducting their work in the laboratory, offering detailed protocols and information that can be referred to on a daily basis. Broadly covering a number of important topics, it draws attention to many of the techniques required to conduct animal research well and responsibly in order to obtain better experimental results.

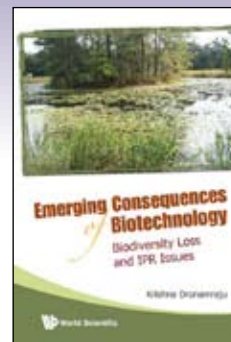
### Key Features

- Allows for ease of reference to common techniques and information
- Provides step-by-step details on how to conduct various blood collection and injection techniques
- Includes important information regarding a variety of topics that will influence good animal research

**Readership:** Undergraduate and postgraduate students in biology and life science subjects who will use laboratory animals; medical scientists and researchers, principal investigators, animal technicians, and veterinary technicians from academia and industry.

250pp (approx.)      Fall 2008  
978-981-277-958-8(pbk)      US\$58      £31  
981-277-958-2(pbk)

# Selected Titles in Biotechnology



## BIOCATALYSIS

Biochemical Fundamentals and Applications

by **Peter Grunwald** (*University of Hamburg, Germany*)

The book covers the fundamentals of the field of biocatalysis that are not treated in such detail (or even not at all) in existing biocatalysis books or biochemistry textbooks. The topics covered ranges from basic enzyme chemistry (biosynthesis, structure, properties, interaction forces, kinetics) to a detailed description of catalytic mechanisms. It covers the fundamentals of the different enzyme classes together with their applications in native and in immobilized state or in the form of whole cells in aqueous as well as non-conventional media. Topics such as catalytic antibodies, nucleic acid catalysts, non-ribosomal peptide synthesis, evolutionary methods, and the design of cells are also included.

### Key Features

- Emphasizes the interdisciplinary nature of biocatalysis and its importance for sustainable development
- Elucidates different biocatalytic phenomena on the basis of the underlying biochemical principles
- Includes many diagrams and reaction paths
- Reviews the relevant literature up to early 2007

**Readership:** Advanced undergraduate and graduate students in biology, chemistry, biochemistry and medicine. Biochemists, biologists and chemists.

700pp (approx.)      Winter 2008  
978-1-86094-744-5      US\$145      £79  
1-86094-744-1

978-1-86094-771-1(pbk)      US\$76      £45  
1-86094-771-9(pbk)

## EMERGING CONSEQUENCES OF BIOTECHNOLOGY

Biodiversity Loss and IPR Issues

by **Krishna Dronamraju** (*Foundation for Genetic Research, USA*)

This book discusses the role of biological, ecological, environmental, ethical, and economic issues in the interaction between biotechnology and biodiversity, using different contexts. No other book has discussed all of these issues in a comprehensive manner. Of special interest is their impact when biotechnology is shared between developed and developing countries, and the lack of recognition of the rights of indigenous populations and traditional farmers in developing countries by large multinational corporations.

### Key Features

- Evaluates the risks resulting from biotechnology, especially to biodiversity in the developing countries
- Examines the impact of intellectual property rights from the viewpoint of their impact on tropical biodiversity
- Includes a Foreword by Dr M S Swaminathan, adviser to the Prime Minister of India (past Chairman of the UN Committee on Intellectual Property Rights, and first World Food Prize laureate in 1987)

**Readership:** All scientists (especially biologists), legal professionals, and anyone interested in the future of the planet and quality of life.

490pp (approx.)      Fall 2008  
978-981-277-500-9      US\$62      £33  
981-277-500-5

### ORCHID BIOTECHNOLOGY

edited by **Wen-Huei Chen** (National University of Kaohsiung, Taiwan) & **Hong-Hwa Chen** (National Cheng Kung University, Taiwan)

This interesting book focuses on the recent advances in orchid biotechnology research since the last 10 years in Taiwan. To advance the orchid industry, enhancement of basic research as well as advanced biotechnology will provide a good platform to improve the flower quality and breeding of new varieties. Important topics covered include the new knowledge of basic genome, through floral morphogenesis, floral ontology, embryogenesis, micropropagation, to functional genomics such as EST, virus-induced gene silencing, and genetic transformation.



**Contents:** Breeding and Development of New Varieties in Phalaenopsis; Embryo Development of Orchids; In vitro Morphogenesis and Micro-Propagation of Orchids; Somaclonal Variation in Orchids; The Screening of Orchid Mycorrhizal Fungi (OMF) and their Applications; Analysis of the Orchid Genome Size Using Flow Cytometry; The Cytogenetics of Phalaenopsis Orchids; Analysis of the Chloroplast Genome of Phalaenopsis aphrodite; Analysis of Expression of Phalaenopsis Floral ESTs; Orchid MADS-Box Genes Controlling Floral Morphogenesis; Pseudobulb-Specific Gene Expression of Oncidium Orchid at the Stage of Inflorescence Initiation; Application of Virus-induced Gene Silencing Technology in Gene Functional Validation of Orchids; Genetic Transformation as a Tool for Improvement of Orchids.

**Key Features**

- Written by leading researchers in the field
- Self-contained, with important data greatly reducing time-consuming reference search
- Goes beyond the limitations of published research reports and integrates new knowledge in the broader context of orchid biology

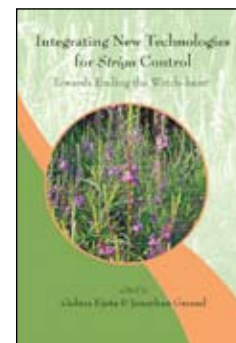
**Readership:** Academic researchers, graduate and post-graduate students in biotechnology, plant biotechnology, botany, plant biology and horticulture; growers; and professionals in biotechnology industry.

276pp                      Jul 2007  
 978-981-270-619-5      US\$68    £37  
 981-270-619-4

### INTEGRATING NEW TECHNOLOGIES FOR STRIGA CONTROL

Towards Ending the Witch-Hunt  
 edited by **Gebisa Ejeta** (Purdue University, USA) & **Jonathan Gressel** (Weizmann Institute of Science, Israel)

Integration is often an anathema to basic scientists who typically deal with single variables and solutions. However, key leaders in the development of the new knowledge-based control strategies, already in the field and under development, recently joined forces to develop strategies and projects in order to integrate the technologies in a symposium in Ethiopia in November 2006. The encouraging results are described in this peer-reviewed book, authored by leaders in the field who have been supplying the basic biology, genetics, biochemistry, and molecular information that have offered insights and generated technologies in how to deal with *Striga*.



**Key Features**

- Delves into the complex relationships between one of the world's worst parasitic pest and its hosts
- Describes how basic research can lead to a variety of solutions to a previously intractable pest problem
- Emphasizes the necessity of integrating solutions to retain their long-term sustainability
- Spans disciplines from biology, physiology, genetics, metabolomics, genomics, breeding, and genetic engineering, to agronomy and biological control, and on to the economics of dealing with these issues

**Readership:** Scientists in academia, industry and national agricultural services dealing with pests and diseases in general and parasitic weeds in particular; policy makers and regulators dealing with pests and genetic engineering; agricultural development agencies and personnel dealing with global agricultural and food security issues.

356pp                      Jun 2007  
 978-981-270-708-6      US\$85    £46  
 981-270-708-5

## Asia Pacific Biotech News (APBN)

ISSN: 0219-0303  
<http://www.worldscinet.com/apbn/apbn.shtml>

### Aims and Scope

Established in 1997, Asia Pacific Biotech News (APBN) is the FIRST to offer comprehensive reports in exciting areas of pharmaceutical, biotechnology publication on pharmaceuticals, biotechnology, agriculture, healthcare and nutrition in the Asia Pacific region. It is read by research scientists, academia, healthcare professionals and investors worldwide.

**Special Feature (Vol.12. No.7)**

- Why in the World Do Patients Travel for Medical Care?
- Is Medical Tourism For You? ...a Look into the System of Healthcare Abroad
- Asia Medical Tourism: First-Rate Healthcare for Sale
- Medical Tourism and Clinical Trials: The New Silk Road
- Aesthetic Medicine in 2007: Trends and Updates
- Clinical Assisted Reproduction in Singapore – Challenges Posed by Medical Tourism and Future Prospects for Growth
- Busting the Fear for Breast cancer

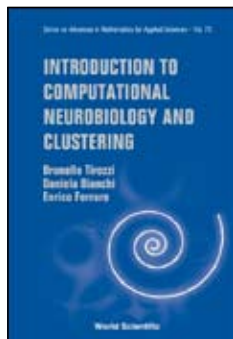


Series on Advances in Mathematics for Applied Sciences – Vol. 73

## INTRODUCTION TO COMPUTATIONAL NEUROBIOLOGY AND CLUSTERING

by **Brunello Tirozzi**, **Daniela Bianchi** (University of Rome "La Sapienza", Italy) & **Enrico Ferraro** (University of Rome "Tor Vergata", Italy)

This volume provides students with the necessary tools to better understand the fields of neurobiological modeling, cluster analysis of proteins and genes. The theory is explained starting from the beginning and in the most elementary terms, there are many exercises solved and not useful for the understanding of the theory. The exercises are specially adapted for training and many useful Matlab programs are included, easily understood and generalizable to more complex situations. This self-contained text is particularly suitable for an undergraduate course of biology and biotechnology.



New results are also provided for researchers such as the description and applications of the Kohonen neural networks to gene classification and protein classification with back propagation neural networks.

### Key Features

- A self-contained text with numerous valuable exercises
- Includes useful Matlab programs

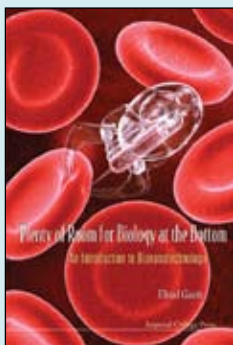
**Readership:** Graduate students and researchers in biotechnical science and neural modeling.

248pp Jun 2007  
978-981-270-539-6 US\$56 £32  
981-270-539-2

## PLENTY OF ROOM FOR BIOLOGY AT THE BOTTOM

An Introduction to Bionanotechnology  
by Ehud Gazit (Tel Aviv University, Israel)

*"It is a very handy introductory book on the dialogue between biology and nanotechnologies that can be very useful both to a novice and to a seasoned nanoscientist. The former will be very directly and profitably introduced to the main principles, achievements, and current trends in both research and applications of bionanotechnology. The latter can use this book as a receptacle into which his or her fund of knowledge can be fed and organized within a very schematic and well-articulated framework — one that can be easily expanded and updated."*



Angewandte Chemie International Edition

**Readership:** Academics in biology and chemistry; life science companies.

200pp Mar 2007  
978-1-86094-677-6 US\$85 £45  
1-86094-677-1

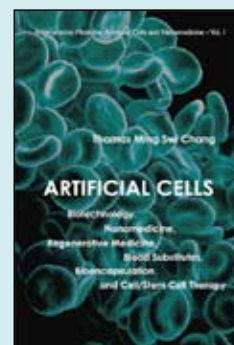
978-1-86094-819-0 (pbk) US\$108 £58  
1-86094-819-7 (pbk)

Regenerative Medicine, Artificial Cells and Nanomedicine – Vol. 1

## ARTIFICIAL CELLS

Biotechnology, Nanomedicine, Regenerative Medicine, Blood Substitutes, Bioencapsulation, and Cell/Stem Cell Therapy  
by **Thomas Ming Swi Chang** (McGill University, Canada)

*"This volume is the most comprehensive review of the field of artificial cells and associated fields published to date. It refreshes the knowledge of the experts while informing the naïve of the history and promise of the future. Written in a conversational style and very well illustrated for fact and emphasis, it is an easy and informative read. Presented in easily accessible form are the underlying theories and concepts of artificial cells, blood substitutes, nanomedicine, regenerative medicine and stem cell therapy in the context of specific clinical situations ranging from general to very specific diseases. Basic science observations support the tested or proposed clinical applications in an exact manner. This volume contains a near encyclopedia quantity of information, carefully and logically assembled and presented. Future developments in the field will depend on the essential information presented here. An essential read for anyone interested in this field, the vision and foresight of this senior scientist and leading statesman of the field makes the topic accessible and understandable."*



A Gerson Greenburg, MD, PhD  
Professor of Surgery, Emeritus, Brown University and  
Vice President Medical Affairs, Biopure Corporation

### Key Features

- Unique in bringing together half a century's information on artificial cells from the author's own work and his synthesis of details from a wide literature search
- Written by a pioneer and unrivalled expert in the field
- Provides the most comprehensive and up-to-date information on the field, with more than 1000 references given at the end of the book to facilitate easier literature search of this highly interdisciplinary area

**Readership:** Academic and industrial researchers and developers in biomedical engineering, bioengineering, biopharmaceuticals, blood substitutes, nanomedicine, regenerative medicine, transfusion medicine; decision makers in biopharmaceutical industries; physicians, surgeons, anesthesiologists, blood bank hematologists; students taking advance courses, graduate students, postdoctoral research fellows and research scientists entering this area of research and development.

484pp May 2007  
978-981-270-576-1 US\$136 £73  
981-270-576-7

978-981-270-778-9 (pbk) US\$68 £37  
981-270-778-6 (pbk)

## Asia Pacific Biotech Directory 2008/9

<http://www.worldscibooks.com/lifesci/6212.html>

ISBN 9789812569608 (pbk)

This new directory features a comprehensive list of biotech organizations, research institutes, universities, biotech/pharmaceutical companies in the Asia-Pacific region. It also describes the companies in great detail.

Asia-Pacific Biotech Directory 2008/9 covers 14 countries in the region.

### Special features

- Easy to read
- Organized country by country
- Includes useful contact details such as names of organization, addresses, contact numbers, email addresses, URLs and areas of expertise
- More than 4000 listings

