

New Titles from Portland Press ...

Publisher of the Biochemical Society

Fundamentals of Enzyme Kinetics

By **A Cornish-Bowden**

Since the first edition was published in 1979, the development of techniques for studying and manipulating genes have transformed biochemistry. Nonetheless, enzymes remain at the heart of all living systems, and an understanding of how they operate is vital for understanding the chemistry of life. This book describes the principles of enzyme kinetics, with an emphasis on principles rather than an encyclopaedic accumulation of facts, to allow readers to fill gaps for themselves and proceed in the subject as far as they need to go. In this way it provides the basis for understanding enzyme kinetics, whether at the level of the undergraduate, the research student or the researcher.

Contents: Basic principles of chemical kinetics; introductory enzyme kinetics; assays and other practical aspects; derivation of rate equations; inhibition and activation; multi-substrate reactions; isotope exchange and isotope effects; pH and temperature effects; control of enzyme activity; multi-enzyme systems; fast reactions; statistical analysis; references; solutions to problems; index.

1 85578 072 0

Paper

April 1995

300 pages

£18.00/US\$29.00

Molecular Botany

Signals and the Environment

Edited by **D J Bowles,**
P M Gilmartin and J P Knox

Molecular Botany presents an overview of the ways in which environmental stimuli lead to developmental and physiological changes within plants. This book encompasses wide areas of plant biology including the study of signals, signalling pathways and their end effects. It addresses areas of intense research activity including the role of the cell wall and glycans in signalling through to molecular events regulating gene activation, defence responses and developmental programming. It should appeal to a broad range of students and researchers working in the areas of plant cell and molecular biology and plant biotechnology.

1 85578 050 X Hard 1994
290 pages £60.00/US\$96.00

Interstitial, Connective Tissue and Lymphatics

Edited by **R K Reed, N McHale,**
J L Bert, P Winlove and
G A Laine

This book offers new perspectives on the inter-relationship of the structure and function of the interstitium, and the formation and propulsion of the lymph.

1 85578 073 9 Hard 1995
300 pages £75.00/US\$120.00

Pulmonary Vascular Remodelling

Edited by **J E Bishop,**
G L Laurent and J Reeves

Pulmonary Vascular Remodelling aims to promote a better understanding of the link between lung arterial structure and function, with the hope of ultimately improving the treatment of pulmonary hypertension. This book describes the changes that occur in the structure and function of the pulmonary vasculature during the development of pulmonary hypertension. Detailed information is given on the molecular and cellular mechanisms involved in this remodelling process. Topics include: • the diversity of the pulmonary circulation and its adaptation to changes in the environment • the dynamic nature of extracellular matrix metabolism • the mechanisms that regulate the remodelling process, including the roles of growth factors, vasoactive substances and mechanical forces.

1 85578 041 0 Hard 1995
288 pages £80.00/US\$128.00

Clinical Pulmonary Hypertension

Edited by **A H Morice**

By asking authorities in specialized research fields to focus on clinical aspects of pulmonary hypertension this book provides the mainstream clinician with an update on current research relevant to the management and diagnosis of the syndrome. It describes the difficulties in recognizing the various syndromes by drawing together the pathology, diagnosis and treatment of pulmonary hypertension in all its forms from a rare disease of young people to the common chronic obstructive airways disease.

1 85578 074 7 Hard 1995
280 pages £80.00/US\$128.00

Extracellular Regulators of Differentiation and Development

Edited by **K E Chapman,**
S P Jackson and D Wilkinson

This book pulls together works from world experts in the field of controlling cell function by extracellular regulators. It covers all aspects from receptors for regulators at the cell surface to effectors of the response in the cell nucleus. Leading experts summarize recent advances in biological systems that have provided insight into the biological mechanisms of developmental processes.

1 85578 070 Hard June 1996
250 pages £60.00/US\$96.00

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Metabolic Regulation: A Human Perspective

By **K N Frayn**, Radcliffe Infirmary, Oxford, UK

Frontiers in Metabolism No. 1

Series Editor: **K Snell**, Institute of Cancer Research, Sutton, UK

The aim of this book is to make the study of metabolic regulation interesting to students by placing it firmly in the context of normal daily life. The components of food are followed from ingestion, through digestion and absorption to their distribution to the tissues, storage and mobilisation and ultimate oxidation. The way in which these processes are regulated by the endocrine and nervous systems is described, as well as the metabolic adjustments necessitated by 'extreme' situations such as fasting and strenuous exercise. There is some discussion of conditions in which normal metabolic regulation is disturbed: diabetes, dyslipoproteinaemias and obesity. The book should be of interest to students of biochemistry, physiology, and medicine as well as to those studying nutrition, sports science, dietetics and nursing.

1 85578 048 8

Paper

April 1996

250 pages

£18.95/US\$30.00

Understanding the Control of Metabolism

By **D Fell**

Frontiers in Metabolism No. 2

This book explains how a new view on the regulation of metabolism has been opened by the theory of Metabolic Control Analysis. It is the first text-book to bring together a full explanation of the new theory with an account of its experimental implementation. As well as noting the differences between Metabolic Control Analysis and traditional metabolic biochemistry, the book sets the background in enzyme kinetics and metabolic investigations on which the new theory draws. **Understanding the Control of Metabolism** is written primarily as a course book for undergraduates who have already taken a basic course in biochemistry and are now studying enzymology and metabolism in more detail.

1 85578 047 X Paper July 1996
250 pages £18.95/US\$30.00

Glossary of Biochemistry and Molecular Biology

By **D Glick**

This book compiles over 2,500 terms and gives succinct definitions to them. References are included with many of the entries as an introduction to the literature.

1 85578 088 7 Paper Autumn 1996
300 pages £16.50/US\$26.40 Provisional

Channelling in Intermediary Metabolism

Edited by **L Agius** and
H S A Sherratt

This book discusses the evidence that metabolic intermediaries are transferred between sequential enzymes in a pathway without equilibration with the free intermediates in solution, a concept described as channelling, and it presents different view points on the biological and kinetic implications of metabolic channelling. It provides a very valuable critical review of the scattered literature indicating that intermediary metabolism is more organised at the cellular level than is generally recognised. The book is divided into three sections - Structural and Kinetics Aspects - Multifunction Enzymes and the Role of Channelling and lastly The Role of Channelling in Specific Metabolic Pathways. This book is intended for postgraduates, researchers and lecturers with an interest in the control of metabolism at the cellular level.

1 85578 075 5 Hard July 1996
250 pp £70.00/US\$112.00 Provisional

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Nerve Growth and Guidance

Frontiers in Neurobiology No. 2

Edited by **C D McCaig**

This book considers in detail, mechanisms underlying nerve growth and guidance. There is considerable coverage of intracellular second messenger involvement, both in guiding growth and collapse of growth cones. This book will be of use to all those interested in developmental neurobiology in general, and nerve guidance in particular, from senior undergraduates through to researchers.

1 85578 085 2 Hard 1996
200 pages £60.00/US\$96.00

Neuropeptide Gene Expression

Frontiers in Neurobiology No. 1

Edited by **A J Turner**

In this book, leading scientists survey the recent progress made in the identification of neuropeptides and the factors regulating their expression including transcription factors, enzymes involved in post-translational processing as well as agents modulating peptide hormone release at synaptic terminals. This book will be of interest to both neuroscientists and those studying gene expression in general.

1 85578 044 5 Hard 1994
260 pages £65.00/US\$105.00