



Wiley

CHICHESTER · NEW YORK
BRISBANE · TORONTO · SINGAPORE

GENES

Structure and Expression

edited by **A.M. Kroon**, *Laboratory of Physiological Chemistry, University of Groningen, The Netherlands*

This book is concerned with the various aspects of gene structure and expression of genetic information especially in eukaryotic cells. Attention is paid to the structure and function of nucleosomes and chromatin, to the architecture of the ribosomes and to several regulatory mechanisms indispensable for the coordinate synthesis and the proper functioning of gene products. Regulatory steps in the initiation of protein synthesis are discussed. Examples are described of the processing of mosaic genes and of the hormonal regulation of gene expression. Emphasis is placed on the aspects of gene expression, related to the fact that the eukaryotic cell is compartmentalized. Separate chapters are devoted to the transport of proteins from the site of genetic expression to that of their functional expression and to the interaction of the nucleocytoplasmic and mitochondrial genetic systems, both of which are present in all eukaryotic cells.

Series: *Horizons in Biochemistry and Biophysics, Volume 7*
November '83 372pp
0471 90264 0 £24.00/\$45.00

TOPICS IN ENZYME AND FERMENTATION BIOTECHNOLOGY

edited by **A. Wiseman**, *Biochemistry Division, Department of Biochemistry, University of Surrey*

Volume 8

The first review covers the important area of xylanases, an area related to the controlled degradation of the hemicellulose component of hardwoods and softwoods, reflecting the interest in the utilization of plant materials including wood. There is an in-depth survey of wastewater treatment in relation to the control of nitrogenous pollution: while the section on computers and micro-processors and their role in industrial fermentation investigates physical and biological control, data collection and system selection.

March '84 180pp
085312 466 3 £21.00/\$36.35

Volume 9

This volume contains an interesting review of the nomenclature, organisms, ecology and substrate range of the physiology of hydrocarbon-utilizing micro-organisms, followed by a very broad-ranging survey of the applications of reactive dyes in biotechnology, which investigates large-scale affinity chromatography, and other chromatographic applications of immobilized dyes. This section also discusses the mode of interaction between proteins and reactive dyes.

April '84 approx. 192pp
085312 633 X approx. £21.00/\$36.35

Published by Ellis Horwood Ltd., and marketed by John Wiley & Sons Ltd.

PHOTOSYNTHETIC SYSTEMS

Structure, Function and Assembly

by **S.M. Danks**, *Biology Tutor, Open University*; **E.H. Evans**, *Department of Biology, Preston Polytechnic* and **P.A. Whittaker**, *Department of Biology, St. Patrick's College, Maynooth, County Kildare*

Whilst the coverage of this book is primarily photosynthesis in green plants, additional comparative material is included on bacteria and algae where photosynthesis takes place; the intention being to present a comprehensive and up-to-date overview. A brief description of the structure of plants, algae and bacteria which are able to carry out photosynthetic reactions is given as a necessary introduction to the detailed discussion of the reactions accompanying photosynthesis in all photosynthetic systems. The final chapter covers the biogenesis of chloroplasts which is a rapidly expanding research area.

November '83 174pp
0471 10250 4 (cloth) £13.95/\$26.25
0471 90178 4 (paper) £5.95/\$11.50

PHOTOSYNTHESIS

by **C. Foyer**, *Sheffield University*

A concise, yet comprehensive description of the photosynthetic pathways, their regulation, and interrelationships. The book focuses on higher plants but considers algae and bacterial systems as well. It also indicates the ways in which plants adapt to the environment.

Series: *Cell Biology: A Series of Monographs*

Contents: General Concepts; The Photosynthetic Membranes; Interactions Between the Thylakoids and Stroma; The Reductive Pentose Phosphate Pathway; The Role of the Chloroplast Envelope; The End Products of Photosynthesis in Leaves; C4 Metabolism; Crassulacean Acid Metabolism (CAM); Photorespiration; Index.

May '84 approx. 200pp
0471 86473 0 approx. £19.00/\$26.60

ORGANIC REACTION MECHANISMS 1982

edited by **A.C. Knipe** and **W.E. Watts**, *School of Physical Sciences, The New University of Ulster, Coleraine, Northern Ireland*

The eighteenth volume, continuing in the pattern now established for this series, surveys research on organic reaction mechanisms described in the literature dated December 1979 to November 1980. The aim as before, has been to provide a concise and comprehensive coverage of work published in the period under review; where at the time of writing, any particular results seemed of outstanding significance, these are described and discussed. The remainder are listed.

Series: *Organic Reaction Mechanisms 1982*

April '84 570pp
0471 90202 0 £72.50/\$120.00

All books available from your usual bookseller or in case of difficulty from Wiley. If ordering from Wiley please make cheques payable to **John Wiley and Sons Limited**. You may also telephone your credit card order - dial 100 and ask for FREEPHONE 3477 (UK only).



John Wiley & Sons Limited

Baffins Lane · Chichester · Sussex PO19 1UD · England

BIOCHEMICAL SOCIETY SYMPOSIA NO. 47

Messenger RNA and Ribosomes in Protein Synthesis

Edited by C. F. PHELPS
and H. R. V. ARNSTEIN

The Biochemical Society's Forty-Seventh Symposium, held in London in December 1981, assembled some of the leading workers in this area of biochemistry. The subjects for discussion were chosen for their timeliness and distinctiveness, and included accounts of ribosome and messenger RNA structure and function, initiation factors, caps and ribonucleoproteins, as well as consideration of the processes leading to the distribution of newly synthesized proteins within the cell. The papers presented are now published in this volume.

List of contents and authors:

Preface. Prokaryotic Ribosome Structure: a Kinetic View by C. G. Kurland. *Structural Aspects of Eukaryotic Ribosomes* by R. A. Cox & J. M. Kelly. *The Secondary Structure of Ribosomal RNA, and its Organization within the Ribosomal Subunits* by R. Brimacombe. *Secondary Structure of Eukaryotic Messenger RNA* by C. P. H. Vary & J. N. Vournakis. *Studies on the Structure and Biogenesis of Yeast Ribosomes* by M. Cannon. *Translation Mechanism in Prokaryotes: Structure and Expression of Escherichia coli Initiation Factor IF3 Gene* by M. Grunberg-Manago, M. Springer, J. A. Plumbridge, S. Blanquet, G. Fayat & C. Sacerdot. *How do Eukaryotic Ribosomes Recognize the Unique AUG Initiator Codon in Messenger RNA?* by M. Kozak. *5'-Terminal Caps, Cap-Binding Proteins and Eukaryotic mRNA Function* by A. J. Shatkin, E. Darzynkiewicz, Y. Furuichi, H. Kroath, M. A. Morgan, S. M. Tahara & M. Yamakawa. *Association of an M_r 50000 Cap Binding Protein with the Cytoskeleton in BHK Cells* by H. Trachsel, A. Zumbé, C. Stähli, M. Hübelin & N. Sonenberg. *Messenger Ribonucleoprotein Complexes in Gene Expression* by H. R. V. Arnstein. *Mechanism of Protein Translocation Across the Endoplasmic Reticulum* by P. Walter & G. Blobel. *Synthesis and Maturation of the Erythrocyte Anion Transport Protein — an Internal Sequence for Membrane Insertion* by H. F. Lodish & W. A. Braell. *Subject Index.*

213 pp. ISBN 0 904498 14 X £25.00 (US\$57.50)



Order from
THE BIOCHEMICAL SOCIETY BOOK DEPOT
PO Box 32, Commerce Way, Colchester CO2 8HP, Essex, U.K.

BIOTECHNOLOGY

Edited by C. F. PHELPS
and P. H. CLARKE

The fourteen contributions forming this volume were presented at a London meeting of the Biochemical Society including the Society's Forty-Eighth Symposium 'Biotechnology', in December 1982. With today's increasing pressures to develop latest laboratory findings into practical industrial processes as quickly as possible the chosen theme of this Symposium was a timely one. The papers represent up-to-date reports from international biochemists whose work is of direct relevance to the wide areas of interests concerned with biotechnology, together with glimpses of the early development of its techniques and a look at its exciting future.

List of contents and authors:

Preface. How Biotechnology Developed at University College London by E. M. Crook. *The Future of Biotechnology* by P. Dunnill. *Carbohydrate Transformations by Immobilized Cells* by C. Bucke. *Biological Halogenation and Epoxidation* by S. L. Neidleman & J. Geigert. *High-Productivity Alcohol Fermentations using Zymomonas mobilis* by M. L. Skotnicki, R. G. Warr, A. E. Goodman, K. J. Lee & P. L. Rogers. *The Problem of Lignin Biodegradation* by L. Wallace, A. Paterson, A. McCarthy, U. Raeder, L. Ramsey, M. MacDonald, R. Haylock & P. Broda. *Special Bacterial Polysaccharides and Polysaccharases* by T. Harada. *A New Era of Exploitation of Microbial Metabolites* by A. L. Demain. *Industrial Prospects for Thermophiles and Thermophilic Enzymes* by B. S. Hartley & M. A. Payton. *Anaerobic Fermentations – Some New Possibilities* by J. G. Morris. *Xenobiotic Degradation in Industrial Sewage: Haloaromatics as Target Substrates* by H. J. Knackmuss. *Genetic Analysis and Manipulation of Catabolic Pathways in Pseudomonas* by P. R. Lehrbach & K. N. Timmis. *Plant Cell Cloning and Culture Products* by L. H. Jones. *A Hybrid Promoter and Portable Shine-Dalgarno Regions of Escherichia coli* by H. A. De Boer, L. J. Comstock, A. Hui, E. Wong & M. Vasser. *Subject Index.*

257 pp. ISBN 0 904498 15 8 £25.00 (US \$57.50)



Order from

THE BIOCHEMICAL SOCIETY BOOK DEPOT

PO Box 32, Commerce Way, Colchester CO2 8HP, Essex, U.K.