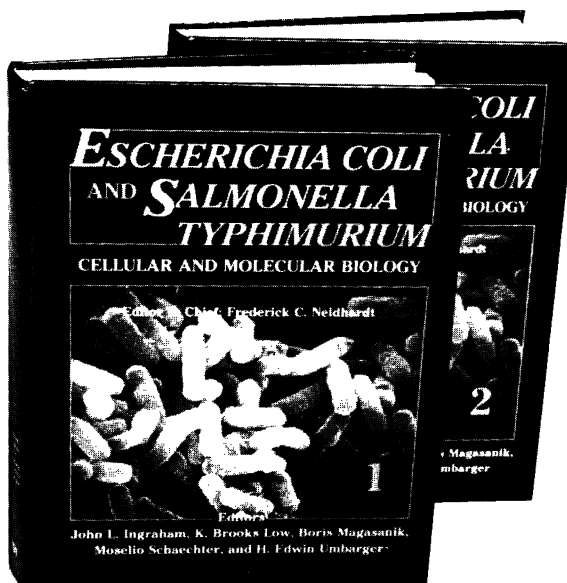


A landmark in scientific publishing



ESCHERICHIA COLI AND SALMONELLA TYPHIMURIUM

CELLULAR AND MOLECULAR BIOLOGY

Editor in Chief: **Frederick C. Neidhardt**, *University of Michigan*

Editors: **John L. Ingraham**, *University of California, Davis*; **K. Brooks Low**, *Yale University*;
Boris Magasanik, *Massachusetts Institute of Technology*; **Moselio Schaechter**,
Tufts University School of Medicine; and **H. Edwin Umbarger**, *Purdue University*

More is known about the molecular and cellular biology of *Escherichia coli* and its close relative *Salmonella typhimurium* than about any other organism. Over several decades, such a mountain of data has accumulated that few scientists can confidently command all relevant perspectives and vantage points. Research opportunities have been lost or retarded by the difficulty in assimilating information.

In June 1987 the dedicated efforts of the six editors and over 100 expert contributors reached fruition with publication of *Escherichia coli and Salmonella typhimurium: Cellular and Molecular Biology*, a single, comprehensive treatment of the two bacteria, comprising all of the important data, maps, pathways, structures, and processes culled from many primary publications (all completely referenced for further in-depth reading). Significantly, however, the book is more than a handbook of data. Integrated throughout are thoughtful reviews sufficient to place information into perspective and to point out areas where new information and understanding are needed.

Much of modern molecular biology has been worked out on *E. coli*. As the editors state, "Not everyone is mindful of it, but cell biologists have two cells of interest: the one they are studying and *Escherichia coli*." No investigator of basic biological questions at the cellular or subcellular level should ignore this landmark publication.

CONDENSED CONTENTS

Volume I

Part I. MOLECULAR ARCHITECTURE AND ASSEMBLY OF CELL PARTS (9 chapters)

Part II. METABOLISM AND GENERAL PHYSIOLOGY

A. Class I Reactions: Generation of Precursor Metabolites and Energy (9 chapters)

B. Class II Reactions: Conversion of Precursor Metabolites to Small-Molecule Building Blocks (19 chapters)

C. Class III Reactions: Formation and Processing of Polymers (10 chapters)

D. Utilization of Energy for Cell Activities (4 chapters)

Volume II

Part III. GENOME AND GENETICS

A. The Genome (6 chapters)

B. Alterations in the Genome (5 chapters)

C. Gene Transfer: Conjugation (4 chapters)

D. Gene Transfer: Transduction (2 chapters)

E. Gene Transfer: Transformation (1 chapter)

F. Genetic Measures of Chromosome Size (1 chapter)

G. Strains and Useful Strain Constructions (3 chapters)

Part IV. REGULATION OF GENE EXPRESSION

A. General Mechanisms (5 chapters)

B. Regulation of Multigene Systems (8 chapters)

C. Paradigms of Operon Regulation (8 chapters)

Part V. GROWTH OF CELLS AND CULTURES (6 chapters)

Part VI. ECOLOGY, EVOLUTION, AND POPULATION STRUCTURE (3 chapters)

A "must" for today's science laboratory or library

Please send me *Escherichia coli and Salmonella typhimurium: Cellular and Molecular Biology*.

Publication date: June 1987

Two volumes, 1,654 pages plus index, illustrated.

Check price

Quantity

Total cost

Hardcover (ISBN 0-914826-89-1)

☐ Member price:

\$76.00

\$ _____

☐ Nonmember price:

\$100.00

\$ _____

Softcover (ISBN 0-914826-85-9)

☐ Member price:

\$66.00

\$ _____

☐ Nonmember price:

\$90.00

\$ _____

Total amount of purchase

\$ _____

Allow 4-6 weeks after publication for delivery. Prices are subject to change without notice. Limit of 3 copies at the member price. If ordering at the member price, give member number: _____.

Check one

☐ Payment enclosed

☐ MasterCard

☐ VISA

☐ American Express

Card number _____

Expiration date _____

Signature _____

Name _____

Address _____

City _____

State/Province _____

Zip/Postal code _____

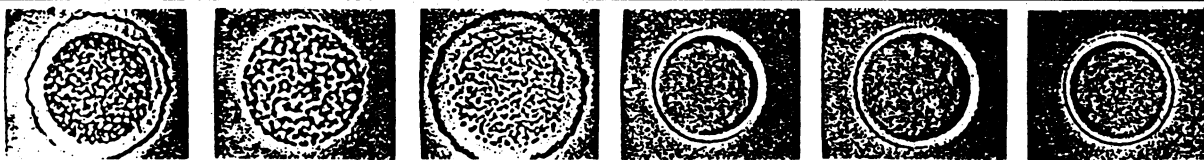
Country _____



AMERICAN SOCIETY FOR MICROBIOLOGY

Publication Sales, 1913 I Street, N.W., Washington, DC 20006 USA

JB 2/88



Molecular Biology of Microbial Differentiation

Proceedings of the Ninth International Spores Conference, Asilomar, California, 3-6 September 1984

**Editors: James A. Hoch
Peter Setlow**

Unlike past conferences in this series, the Ninth International Spores Conference held in September 1984 focused on one exciting and rapidly progressing area of bacterial development: the molecular biology of the sporulation and germination processes.

Symposium presentations from this important meeting and review articles have been compiled and edited for ready reference by James A. Hoch (Division of Cellular Biology, Research Institute of Scripps Clinic) and Peter Setlow (Department of Biochemistry, University of Connecticut Health Center).

Molecular Biology of Microbial Differentiation presents the latest conclusions in the molecular biology of differentiation in higher procaryotes. Many of the contributions deal with the basic molecular biology and the sporulation of *Bacillus subtilis*.

Keep pace with the progress in spore research

Thirty-eight excellent articles cover these major areas:

- Molecular Cloning and Genetics of Sporulation and Germination Genes

- Characterization of Cloned Genes and Their Regulatory Signals
- Control of Developmental Transcription
- Metabolic Control of Gene Expression and Sporulation
- Endotoxin Formation in Sporulating Organisms
- Microbial Differentiation Systems

A valuable reference tool

This new book will be an invaluable resource for every researcher and student of spore science.

Yes, please send me
*Molecular Biology of
Microbial Differentiation.*

Publication date: April 1985
280 pages, illustrated, index

Quantity _____ Check price
____ Hardcover (ISBN 0-914826-75-1)

ASM member \$39.00 _____
Nonmember \$49.00 _____

- ☐ Payment enclosed
☐ MasterCard
☐ VISA

Limit of 3 copies at member price. If ordering at member price, give member number.

Allow 4-6 weeks for delivery.

Card number _____

Expiration date _____

Signature _____

Ship to:
Name _____

Institution _____

Address _____

City _____

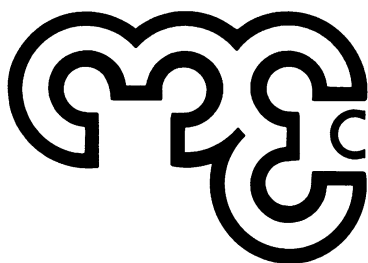
State/Province _____ Zip/Postal code _____

Country _____



American Society for Microbiology
Publication Sales

1913 I Street, N.W., Washington, DC 20006 USA



*New directions in this
multi-disciplinary field of inquiry*

Current Perspectives in MICROBIAL ECOLOGY

Proceedings of the 3rd International Symposium

EDITORS: M.J. Klug and C.A. Reddy

Microbial ecology is a young discipline that studies the important role played by microbial processes in all ecosystems. It calls on numerous other disciplines—other fields of microbiology, as well as oceanography, limnology, soil science, atmospheric chemistry, and plant and animal sciences—to clarify the interactions and strategies common to all microbes regardless of habitat. Current and future trends are examined in these invited papers, which cover four major themes: microbial adaptations, microbial interactions, microorganisms in ecosystems, and microbial bioconversion; the scope ranges from molecular to planetary.

SECTIONS INCLUDE:

- Microbes and Ecological Theory
- Physiological and Morphological Adaptations
- Genetic Adaptation to the Environment
- Mechanisms of Microbial Adhesion to Surfaces
- New and Unusual Microorganisms and Niches
- Infectious Processes in Plants
- Gastrointestinal Microecology
- Microbial Competition
- Microbes as Predators or Prey
- Biological Control
- Comparative Carbon and Energy Flow in Ecosystems
- Comparative N and S Cycles
- Atmospheric-Biospheric Exchanges
- Ecological Significance of Biomass and Activity Measurements
- Microbial Responses to Ecosystem Perturbations
- Metabolism of Natural Polymers
- Bioconversion of Inorganic Materials
- Ecological Strategies for the Fermentation Industry
- Biodegradation of Xenobiotics

Ordering Information:

Publication date: April 1984.
710 pages. Clothbound.
ISBN: 0-914826-60-3. Member:
\$47.00. Nonmember: \$59.00.

Prices are subject to change.

To order, complete the coupon and mail to the publisher:

ASM American Society
for Microbiology
1913 I Street, N.W.
Washington, DC 20006
USA

Please send _____ copy(ies) of *Current Perspectives in Microbial Ecology* at \$47.00 (member) and \$59.00 (nonmember).

☐ Payment enclosed

☐ Charge to my ☐ MasterCard ☐ VISA

Card Number _____

Expiration Date _____

Signature _____

Name _____

Address _____

City/State/Zip _____

Country _____

JB 2/88

MICROBIAL GROWTH ON C₁ COMPOUNDS

EDITORS: **Ronald L. Crawford
and R. S. Hanson**

Microorganisms that grow on C₁ compounds offer great potential for use in applied microbiology. They are useful as biocatalysts, for certain biotransformations, for production of fine and bulk chemicals by fermentation, and for production of cloned gene products and single cell protein.

Recent advances in the biochemistry and genetics of these microorganisms enhance their potential for use in several processes. This book contains high-quality, full-length invited papers from recognized authorities on all aspects of the microorganisms that utilize C₁ compounds.

Sections:

- Physiology and Biochemistry of Autotrophs
- Physiology and Biochemistry of Methylotrophs and Methanotrophs
- Physiology and Biochemistry of Methanogens
- Genetics of Microbes that Utilize C₁ Compounds
- Taxonomy and Ecology of Microbes that Grow on C₁ Compounds
- Applied Aspects of Microbes that Grow on C₁ Compounds
- New Directions in C₁ Metabolism

ORDERING INFORMATION

Publication Date: May 1984. 343 pages.

Clothbound. ISBN: 0-914826-59-X.

Member: \$39.00. Nonmember: \$47.00.

Prices are subject to change.

To order, complete the coupon and mail it to the publisher,

ASM American Society
for Microbiology

1913 I Street, NW
Washington, DC 20006
USA

Please send _____ copy(ies) of *Microbial Growth on C₁ Compounds* at (check appropriate price)

☐ \$47.00 (Nonmember) ☐ \$39.00 (ASM Member)

☐ Payment enclosed.

☐ Charge to my ☐ MasterCard ☐ VISA

Card Number _____

Expiration Date _____

Signature _____

Name _____

Address _____

City/State/Zip _____ JB 2/88



Introducing the first systematic approach to safety management in the laboratory.

LABORATORY SAFETY: PRINCIPLES AND PRACTICES

Editor in Chief:
Brinton M. Miller

Editors:
Dieter H. M. Gröschel
John H. Richardson
Donald Vesley
Joseph R. Songer
Riley D. Housewright
W. Emmett Barkley

With the explosive growth of biotechnology, there has been a need for a reference work that covers the complicated issue of safety in clinical and research laboratories. Now, for the first time, such a guide is available.

Laboratory Safety: Principles and Practices tells how to identify, assess, and manage laboratory hazards. Written by recognized authorities in this rapidly changing field, this book discusses the potentially toxic or hazardous microorganisms, chemicals, reagents, and other substances that laboratory personnel encounter. It de-

scribes equipment and techniques for containing biohazards, as well as methods for handling accidents in the laboratory.

This volume also includes:

- The CDC/NIH guidelines *Bio-safety in Microbiological and Biomedical Laboratories*

- Lists of state health officials and poison information centers nationwide

- Basic first aid techniques

Invest in this valuable reference work today. Because tomorrow, the safety of people in your laboratory may depend on it.

Take the first step toward laboratory safety. Order your book today.

Please send me *Laboratory Safety: Principles and Practices*.

Publication date: March 1986
372 pages, illustrated, index

Quantity

____ Hardcover (ISBN 0-914826-77-8)

Check price

Member price: \$38.00 ____

Nonmember price: \$55.00 ____

Allow 4-6 weeks for delivery. Prices are subject to change without notice. Limit of 3 copies at the member price. If ordering at the member price, give member number: ____

Check one

- ☐ Payment enclosed
☐ MasterCard
☐ VISA

Card number _____

Expiration date _____

Signature _____

Ship to:

Name _____

Institution _____

Address _____

City _____

State/Province _____

Zip/Postal code _____

Country _____



American Society for Microbiology
Finance Department, 1913 I Street, N.W., Washington, DC 20006 USA

JB 2/88

STREPTOCOCCAL GENETICS

Edited by

JOSEPH J. FERRETTI

*University of Oklahoma Health Science Center
Oklahoma City, Okla.*

ROY CURTISS III

*Washington University
St. Louis, Mo.*

Streptococcal Genetics presents a compilation of the most recent work in this important area, featuring over sixty contributions from the leading workers in the field. There has been a dramatic increase in interest and activity on this subject over the past few years, as investigators from all disciplines have embraced the new approaches and tools that genetic studies afford.

Initially, streptococcal genetics research centered on the study of gene transfer, antibiotic resistance, and plasmid biology. However, in recent years there has been an emphasis on genetic aspects of streptococcal virulence, pathogenicity, and metabolism. These studies are directed towards the major health problems associated with strep-

tococcal diseases, namely, rheumatic heart disease, glomerulonephritis, dental caries, neonatal meningitis and septicemia, pneumonia, and skin and throat infections. Additionally, basic studies aimed at the elucidation of streptococcal fermentation pathways are of prime importance for food processing and dairy industries.

This volume is divided into five major sections, each with an introduction presenting an overview and historical perspective for each of the topics. Useful appendixes give information on streptococcal cloning vectors, nucleotide sequences, and amino acids. An attractive volume for both new and established investigators. Based on the Second ASM Conference on Streptococcal Genetics, May 1986.

CONDENSED CONTENTS

I. Gene Transfer (8 chapters)

Streptococcus sex pheromones, plasmid-related conjugation, transposons and mutagenesis, cloning systems, restriction systems, genetic transformation.

II. Antibiotic Resistance (10 chapters)

Resistance determinants, genes and products, conjugative transposons, natural genetic-information transfer, plasmid-borne resistance genes and products.

III. Pathogenic Streptococci (23 chapters)

M proteins: structural and genetic relationships, phase variation, genes, transcriptional studies of phase variants, surface expression; immunoglobulin G receptor gene; human and animal isolates; homologous sequences and host specificity; DNA fingerprints; exotoxins: genes and characterizations; streptokinase and amidase; plasmid hemolysin/bacteriocin determinants; hemolysin production; virulence; surface protein; immunoglobulin A1 protease gene; competence control region.

IV. Oral Streptococci (7 chapters)

Adhesion fimbriae structural gene, virulence components, glucosyltransferase gene and product, surface proteins and virulence, β -D-fructosidase.

V. Lactic Acid Streptococci (8 chapters)

β -Galactosidase gene and plasmids, transformation by electroporation, spheroplast transfection, Tn919, metabolic traits, plasmid-encoded structural genes, lactose metabolism, bacteriophages, bacteriophage insensitivity mechanisms.

Appendixes: Cloning vectors, nucleotide sequences, amino acids.

Indexes.

Yes, send me *Streptococcal Genetics*.

Publication date: June 1987.

Hardcover (ISBN 0-914826-93-X)

Approximately 300 pages, illustrated, index.

Price

Quantity

Total cost

☐ Member: \$39.00

\$ _____

☐ Nonmember: \$49.00

\$ _____

Total amount of purchase

\$ _____

Allow 4-6 weeks after publication for delivery. Prices are subject to change without notice. Limit of 3 copies at member price. If ordering at the member price, give member number: _____.

Check one

☐ Payment enclosed

Card number _____

☐ MasterCard

Expiration date _____

☐ VISA

☐ American Express

Signature _____

Ship to:

Name _____

Address _____

City _____

State/Province _____

Zip/Postal code _____

Country _____

JB 2/88

ASM

AMERICAN SOCIETY FOR MICROBIOLOGY

Publication Sales, 1913 I Street, N.W., Washington, DC 20006 USA

Phosphate Metabolism and Cellular Regulation in Microorganisms

Editors:

Annamaria Torriani-Gorini, *Massachusetts Institute of Technology, Cambridge, Mass.;*

Frank G. Rothman, *Brown University, Providence, R.I.;*

Simon Silver, *University of Illinois College of Medicine, Chicago, Ill.;*

Andrew Wright, *Tufts University Medical School, Boston, Mass.;*

and Ezra Yagil, *Tel Aviv University, Tel Aviv, Israel*

This important new volume presents the latest progress on DNA sequencing and analysis of phosphate transport systems, the Pho regulon and other regulons governing "global metabolism" in the cell, polyphosphates and their synthesis and degradation, and the export of proteins across the cell membrane. *Phosphate Metabolism and Cellular Regulation in Microorganisms* will be of interest to anyone investigating bacterial metabolism and molecular biology; it will also be of general interest to those with environmental concerns and interests in phosphate metabolism in higher organisms, both plants and animals. The work contains the proceedings of an international symposium held in Concarneau, France, June 1986.

CONDENSED CONTENTS

I. Phosphate Regulation in *Escherichia coli* (5 chapters)

Pho regulon, alkaline phosphatase gene regulation/phosphate response, phosphate regulon regulatory genes, PhoE protein expression, acid phosphatase regulatory characteristics

II. Phosphate Regulation in Diverse Organisms (4 chapters)

Bacillus licheniformis alkaline phosphatase: proteins and genes; *Saccharomyces cerevisiae* phosphatase synthesis regulation, phosphatase multigene family, and acid phosphatase synthesis

III. Protein Secretion and Use of Alkaline Phosphatase (7 chapters)

E. coli: phosphate-binding-protein synthesis/export machinery, phospholipids in protein secretion/energetics, foreign-protein secretion into periplasm, *lamB* protein export; alkaline phosphatase: protein secretion analysis, enzymatic activity and cellular location, membrane protein insertion into cytoplasmic membrane

IV. Structure and Function of Alkaline Phosphatase (4 chapters)

Site-directed mutagenesis, crystal structure, multinuclear NMR analytical approaches, *E. coli* isozyme formation/molecular mechanism

V. Transport of Phosphate and Phosphorylated Compounds in *Escherichia coli* (7 chapters)

Pst system: molecular, genetic, biochemical analyses; Pit system;

PhoE protein structure/function; glycerol 3-phosphate transport: *glpT*-, *ugp*-, and *uhp*-dependent systems

VI. Mechanisms and Energetics of Phosphate Transport in Other Organisms (4 chapters)

Pseudomonas aeruginosa outer membrane protein P phosphate-binding site, sugar phosphate transport/anion exchange, solute/ion transport, *S. cerevisiae* phosphate uptake

VII. Phosphate Reserves and Energy Storage: Polyphosphates (5 chapters)

E. coli accumulation/metabolism, *Acinetobacter lwoffii* surface pool, *Propionibacterium shermanii* polyphosphate kinase and glucokinase, biosynthesis and transport in yeasts

VIII. Phosphate Reserves and Energy Storage: Pyrophosphates (4 chapters)

NMR methanogen studies/cyclic pyrophosphates, inorganic pyrophosphate-supplied metabolic energy, *Rhodospirillum rubrum* energy conversion, regulation of pyrophosphate metabolism in plants

IX. Global Regulatory Systems in Enteric Bacteria (6 chapters)

Bacterial carbon metabolism, nitrogen assimilation, stable-RNA transcription initiation, phosphorylated metabolites/alarmones, *E. coli* DNA damage/stress responses

X. Historical Perspective: *E. coli* alkaline phosphatase gene-protein relationships

Send me *Phosphate Metabolism and Cellular Regulation in Microorganisms*.

Publication date: July 1987.

Hardcover (ISBN 0-914826-94-8)

Approximately 330 pages, illustrated, index.

Price	Quantity	Total cost
<input type="checkbox"/> Member: \$39.00	_____	\$ _____
<input type="checkbox"/> Nonmember: \$49.00	_____	\$ _____
Total amount of purchase		\$ _____

Allow 4-6 weeks after publication for delivery. Prices are subject to change without notice. Limit of 3 copies at the member price. If ordering at the member price, give member number: _____.

Check one

☐ Payment enclosed

Card number _____

☐ MasterCard

Expiration date _____

☐ VISA

Signature _____

☐ American Express

Ship to:

Name _____

Address _____

City _____ State/Province _____

Zip/Postal code _____ Country _____

JB 2/88



AMERICAN SOCIETY FOR MICROBIOLOGY

Publication Sales, 1913 I Street, N.W., Washington, DC 20006 USA