

# About Pearson

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*Pearson is the world's learning company, with presence across 70 countries worldwide. Our unique insights and world-class expertise comes from a long history of working closely with renowned teachers, authors and thought leaders, as a result of which, we have emerged as the preferred choice for millions of teachers and learners across the world.*

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# **Bioscience and Geology**

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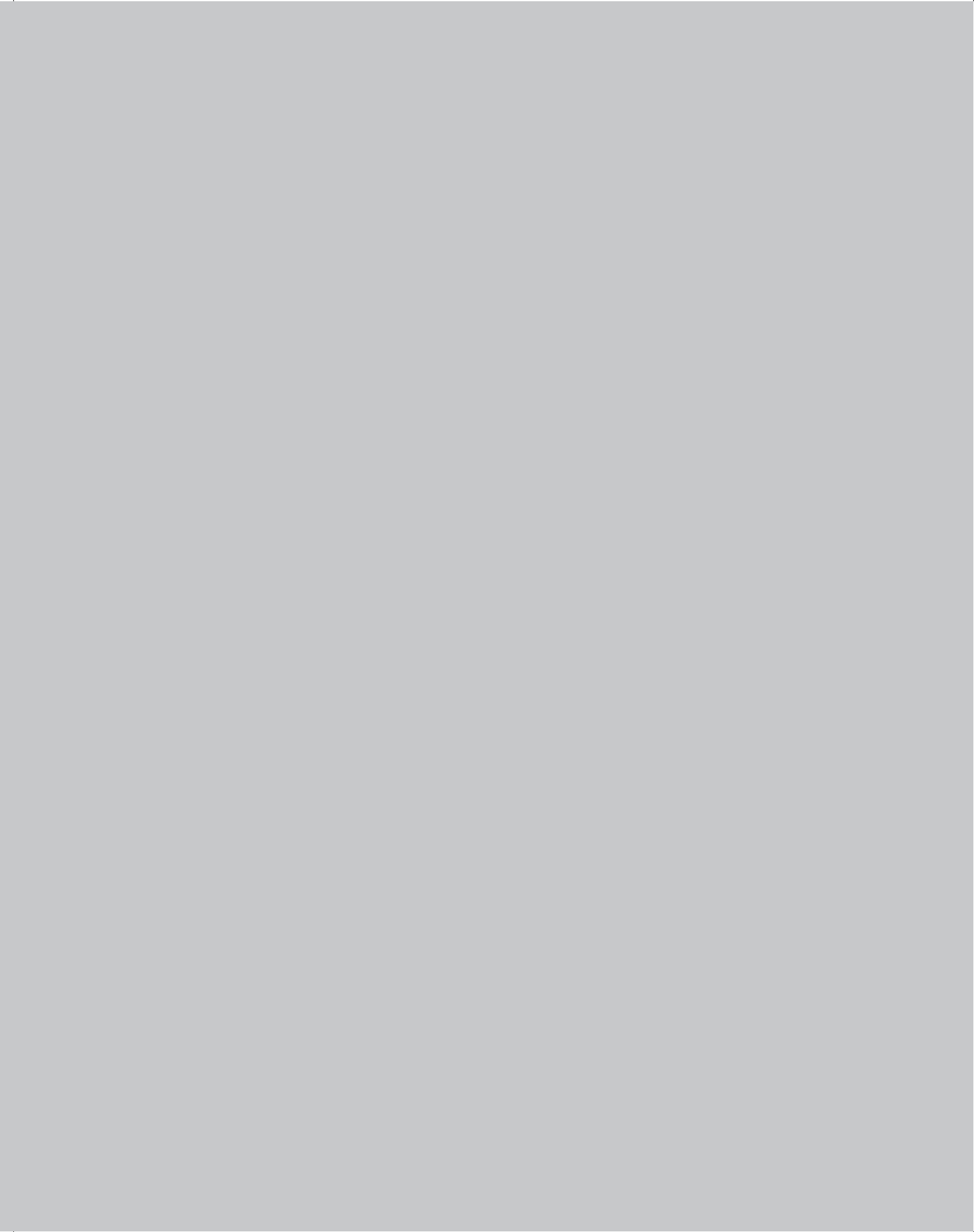
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## Agriculture

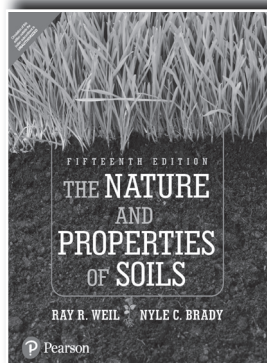
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## The Nature and Properties of Soils, 15/e

 **Raymond R. Weil | Nyle C. Brady**

 **1172 | © 2022**



**ISBN: 9789356062719**

### ABOUT THE BOOK

The Nature and Properties of Soils is designed to engage today's students with the latest in the world of soils. This hallmark text introduces students to the exciting world of soils through clear writing, strong pedagogy, and an ecological approach that effectively explains the fundamentals of soil science. Worked calculations, vignettes, and current real-world applications prepare readers to understand concepts, solve problems, and think critically. Written for both majors and non-majors, this text highlights the many interactions between the soil and other components of forest, range, agricultural, wetland and constructed ecosystems.

### FEATURES

- A comprehensive approach to soils with a focus on six major ecological roles of soil including growth of plants, climate change, recycling function, biodiversity, water, and soil properties and behavior.
- Updated with the latest advances, concepts, and applications including hundreds of key references.
- New coverage of cutting-edge soil science. Examples include coverage of the pedosphere concept, new insights into humus and soil carbon accumulation, subaqueous soils, soil effects on human health, principles and practice of organic farming, urban and human engineered soils, new understandings of the nitrogen cycle, water-saving irrigation techniques, hydraulic redistribution, soil food-web ecology, disease suppressive soils, soil microbial genomics, soil interactions with global climate change, digital soil maps, and many others
- New applications boxes and case study vignettes. A total of 10 new application and case study boxes bring important soils topics to life.

### CONTENTS

- |  |   |
|--|---|
| 1. The Soils Around Us   | 11. Organisms and Ecology of the Soil               |
| 2. Formation of Soils from Parent Materials                            | 12. Soil Organic Matter                             |
| 3. Soil Classification   | 13. Nitrogen and Sulfur Economy of Soils            |
| 4. Soil Architecture and Physical Properties                           | 14. Soil Phosphorus and Potassium                   |
| 5. Soil Water: Characteristics and Behavior                            | 15. Calcium, Magnesium, Silicon, and Trace Elements |
| 6. Soil and the Hydrologic Cycle                                       | 16. Practical Nutrient Management                   |
| 7. Soil Aeration and Temperature                                       | 17. Soil Erosion and Its Control                    |
| 8. The Colloidal Fraction: Seat of Soil Chemical and Physical Activity | 18. Soils and Chemical Pollution                    |
| 9. Soil Acidity  | 19. Geographic Soils Information                    |
| 10. Soils of Dry Regions: Alkalinity, Salinity, and Sodicty            | 20. Prospects for Soil Health in the Anthropocene   |

### ABOUT THE AUTHOR

**Raymond R. Weil**, University of Maryland

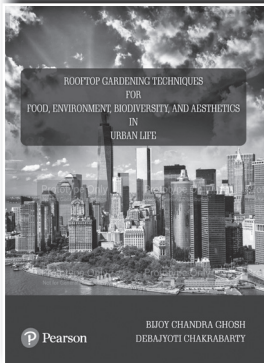
## Rooftop Gardening Techniques for Food, Environment, Biodiversity and Aesthetics in Urban Life



**Bijoy Chandra Ghosh | Debajyoti Chakrabarty**



**176 | © 2022**



**ISBN: 9789356065161**

### ABOUT THE BOOK

Rooftop Gardening Techniques for Food, Environment, Biodiversity and Aesthetics in Urban – This book covers how to organically recycle waste, vermicomposting techniques, crop production, polytunnel and greenhouse construction and control irrigation technology. The detailed information on cultivation, nutrition, propagation, and multiplication of various types of plants are also covered. The advantages of rooftop gardening on education, the environment, biodiversity, and aesthetics are elaborated on. This book is intended to be a guide and can be of much use to city dwellers and home gardeners (especially those with ample free time), and hope

it is of much assistance. Organic vegetation, usually rare in urban markets, can now be grown easily on a rooftop. The rooftops of both private and public buildings, hospitals, retail outlets and office buildings can be bought for the purpose of rooftop gardening. This book is dedicated to the subject, so that we can easily and cost-effectively create more green roofs in urban areas

### CONTENTS

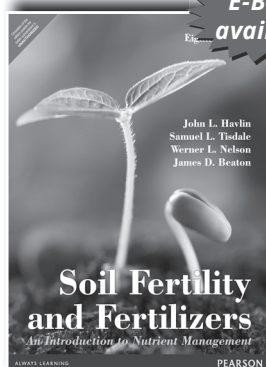
1. Introduction
2. Types of Green Roof and Structural Design
3. Principle of Crop Production in Rooftop Cultivation
4. Rooftop Gardening Techniques Involved in Crop Production
5. Components and Activities of Rooftop gardening
6. Organic Crop Production on Roof Top
7. Plants Suited to Rooftop Garden Environments
8. Case Studies

### ABOUT THE AUTHOR

**Mr. Bijoy Chandra Ghosh** is a retired professor from Indian Institute of Technology, Kharagpur, with a long career of research in the academic field of agriculture. The rooftop gardening book reflects on his own contributions and experiences. Professor. Ghosh has tried to explore the conditions and factors affecting various types of crops being grown on rooftops, taking all problems into consideration, and attempting to find solutions. He has especially focused on the problem of growing organic crops using organic growing medium (vermicompost) for rooftop processes. The benefits of rooftop gardening on education, the environment, ecology, food production and wellbeing are well documented. In his credit, a large number of papers have been published in both national and international journals, and he has supervised 18 PhD students. He has also carried out a large number of research projects in the entirety of his academic career. His contributions in the areas of organic farming, vermicompost technologies, tea cultivation and commercialisation, rooftop technologies and crop diversification have had impacts in the world of agriculture. He has visited many countries, in order to both gain and share knowledge, and has significant experience and expertise in the field of agriculture.

**Dr Debajyoti Chakrabarty**, PhD, WBES, has throughout an excellent academic career. He was awarded the Indian National Scholarship, and Junior Research Fellowship from CSIR for his academic achievement, and obtained his PhD degree from the University of Kalyani, and his specialization is in Fisheries Science. After completion of Junior Research Fellowship he joined West Bengal Education Service as a lecturer in Zoology at PG Department of Zoology, Darjeeling Government College in 1990, then he has served PG Department of Zoology in Krishnanagar Government College, PG Department of Zoology, Barasat Government College and in later two institutions he was Head of the Department. Now he is serving in the Department of Zoology in GGDC, Singur as HOD. He is serving for more than 30 years in West Bengal Education Service and has a research experience of more than 33 years. He successfully guided two students for PhD degrees and one student for MPhil degree. He has successfully completed two minor research projects funded by University Grants Commission as principal investigator. He has produced more than 31 research papers, a few books, chapters in National and International books and journals. He remained editor of two research journals. Beside his academic pursuits he has advisory in Fish Seed Supply, Fish Disease Prevention and Treatment, Fish medicine, Sustainable Development of Fisheries, Cage Culture, Bottom Clean, Biofloc, Conventional Culture, Fish Feed Making, Fish Feed Selling, Table size Fish Marketing and many other spheres of fisheries science

## Soil Fertility and Fertilizers, 8/e



ISBN: 9789332570344



John L. Havlin | Samuel L. Tisdale | Werner L. Nelson | James D. Beaton



536 | © 2016



### ABOUT THE BOOK

*Soil Fertility and Fertilizers: An Introduction to Nutrient Management, Eighth Edition*, provides a thorough understanding of the biological, chemical, and physical properties affecting soil fertility and plant nutrition. Covering all aspects of nutrient management for profitable crop production, the text pays particular attention to minimizing the environmental impact of soil and fertilizer management. The eighth edition of this proven text has been substantially revised to reflect rapidly advancing knowledge and technologies in both plant nutrition and nutrient management.

### FEATURES

- Illustrates critical quantitative skills essential to professional success in nutrient management and related disciplines.
- Increased number of photographs, diagrams, and other visuals illustrating nutrient response in crops, soil management effects on crop growth, nutrient application equipment, and more.
- Covers a wide diversity of plants and cropping systems.
- Increased emphasis on alternative nutrient sources to the most common fertilizers.
- Substantially enhanced focus on environmental impacts of nutrient use.

### CONTENTS

- |                                   |                                   |   |
|-----------------------------------|-----------------------------------|---|
| 1. Introduction                   | 6. Potassium                      | 10. Basics of Nutrient Management                       |
| 2. Basic Soil-Plant Relationships | 7. Sulfur, Calcium, and Magnesium | 11. Nutrients Interactions and Economics                |
| 3. Soil Acidity and Alkalinity    | 8. Micronutrients                 | 12. Agricultural Productivity and Environmental Quality |
| 4. Nitrogen                       | 9. Soil Fertility Evaluation      |   |
| 5. Phosphorus                     |                                   |   |

### ABOUT THE AUTHOR(S)

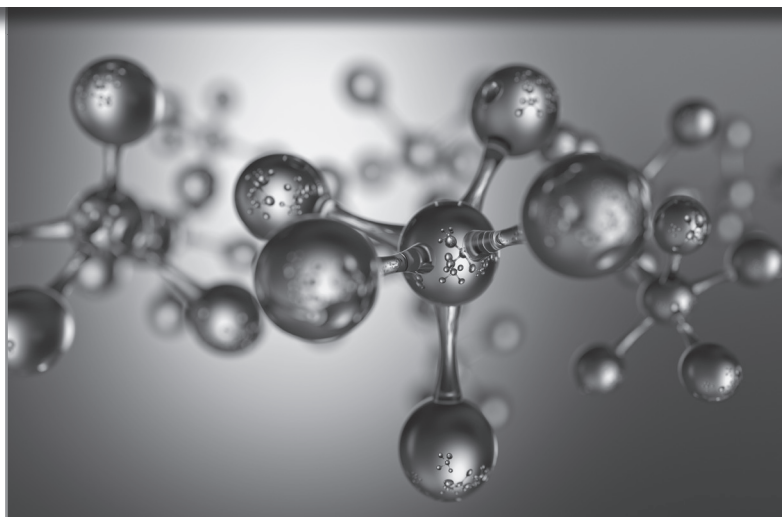
John L. Havlin, North Carolina State University

Samuel L. Tisdale

Werner L. Nelson, North Carolina State University

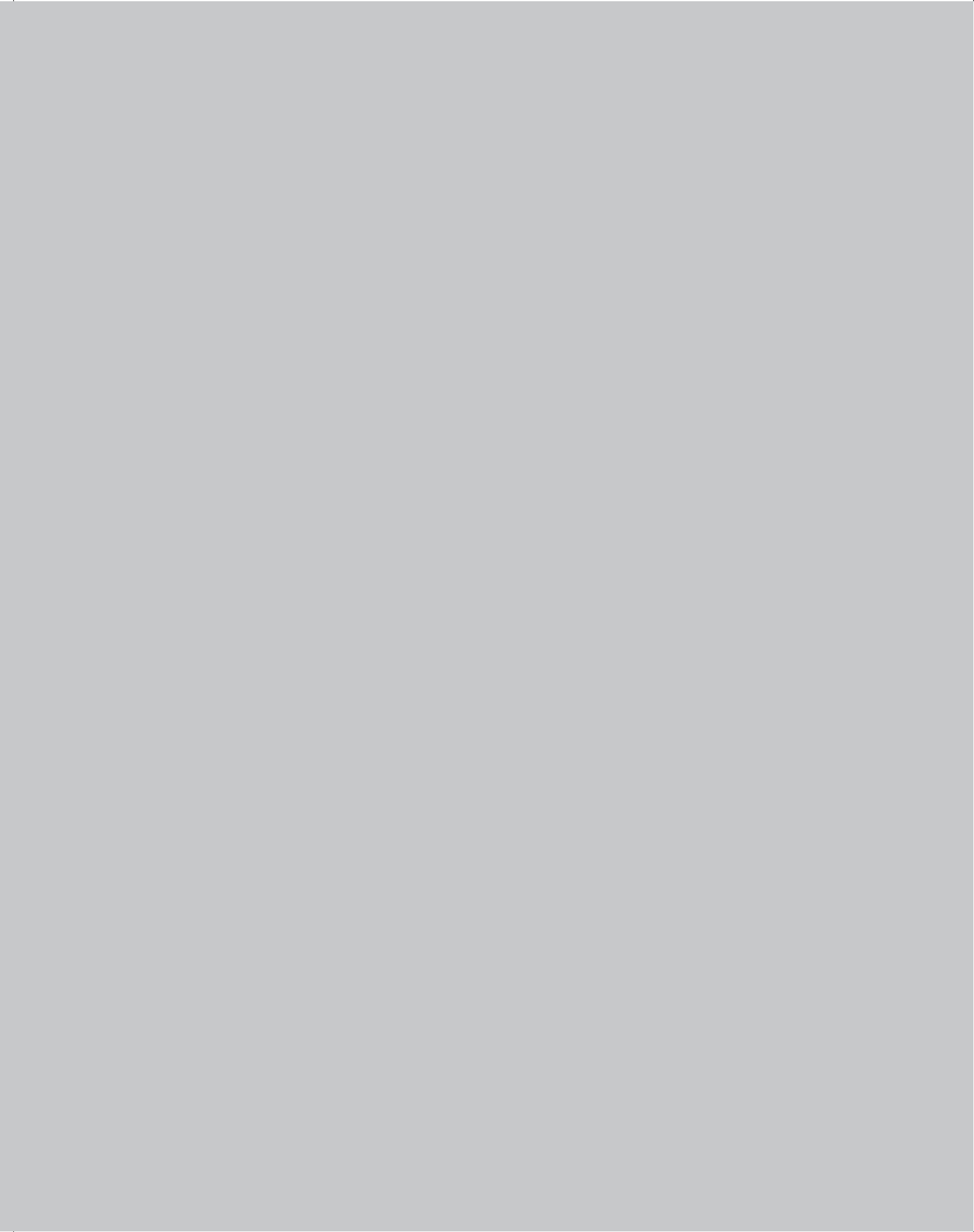
James D. Beaton, Potash and Phosphate Institute of Canada



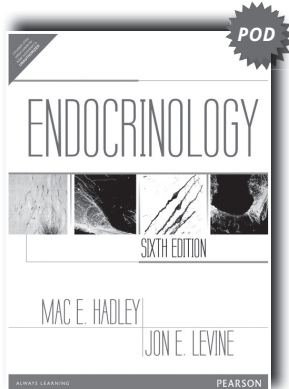


# Biology

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## Endocrinology, 6/e



ISBN: 9788131726105



Mac E. Hadley | Jonathan Levine



608 | © 2009



## ABOUT THE BOOK

Appropriate for one-semester junior-graduate level courses in Endocrinology, Endocrine Physiology, as well as courses in medicine, dentistry, pharmacology, nutrition, nursing and other related medical or animal sciences where endocrinology is the focus. Hadley provides comprehensive coverage of endocrinology, centralizing on the critical roles of glands, hormones, receptors, and molecular signaling pathways in the control of physiological processes. This up-to-date Sixth Edition reviews the basic concepts, research methodologies, and the “state-of-the-art” scientific understanding of each of the major endocrine systems, in examples designed specifically for premedical and related professional courses.

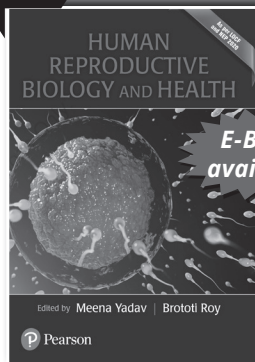
## FEATURES

- Emphasizes that all aspects of hormone function – synthesis, secretion, delivery, action and disposal – are of great physiological significance.
- Special reference to the roles of chemical messengers in the control of homeostatic systems—In the overall discussion of homeostasis.
- Coverage of the most recent molecular, genetic, and physiological—As well as the more classical methodologies.
- Traces the evolution of hormone structure—In relation to the comparative endocrinology of neurohypophysial hormones.

## ANIMAL SCIENCE/ZOOLOGY

## Human Reproductive Biology and Health

NEW



ISBN: 9789356066328



Meena Yadav | Brototi Roy



568 | © 2023



## ABOUT THE BOOK

This book covers various aspects of reproductive biology, such as reproductive endocrinology, anatomy and histology of male and female reproductive systems, physiology of male and female reproduction and associated events such as puberty and menopause, fertilization, and post-fertilization events. The disorders and diseases associated with the sexual differentiation and reproductive system have also been discussed. This textbook on Human reproductive biology and health is authored by subject matter experts who are teaching reproductive biology at the undergraduate and postgraduate levels at the University of Delhi as well as other premier universities in India. Lucid explanations combined with

technical accuracy make this book an invaluable asset for students as well as those preparing for professional exams.

## FEATURES

- Elucidates different processes in reproduction starting from germ cell formation to fertilization and consequent pregnancy, parturition, and lactation.
- Discusses the interplay of various hormones in the functioning and regulation of the male and female reproductive systems.
- Covers causes, diagnosis, and management of infertility, including latest methods, technologies, and infrastructure in assisted reproduction.
- Presents the modern methods in contraception and their use in family planning strategies.
- Includes chapters on population growth and reproductive health and family welfare in India

## CONTENTS

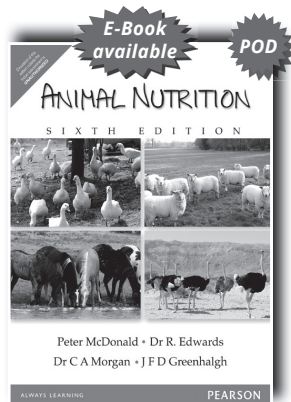
1. Chromosomal Sex Determination and Sex Differentiation
  2. Disorders of Sexual Differentiation and Development
  3. Reproductive Hormones: Types, Mechanism of Action and Regulation
  4. Neuroendocrine Control of Reproduction
  5. Sex Steroids: Steroidogenesis and Metabolism
  6. Hormonal Imbalance and Disorders of Reproductive System
  7. Anatomy and Histology of the Male Reproductive System
  8. Anatomy and Histology of Female Reproductive System
  9. Physiology of Male Reproduction
  10. Physiology of Female Reproduction
  11. Puberty
  12. Menopause
  13. Fertilization
  14. Implantation and Hormonal Regulation
  15. Pregnancy
  16. Mechanism of Parturition and Its Hormonal Regulation
  17. Lactation
  18. Contraception
  19. Infertility: Causes, Diagnosis and Management
  20. Assisted Reproductive Technology
  21. Reproductive Tract Infections
  22. Human Population Growth and Dynamics
  23. Reproductive Health and Family Welfare in India
  24. Cancers of the Human Reproductive System
  25. Intersexuality: A Sociological Perspective
- Acronyms  
Glossary

## ABOUT THE AUTHOR

**Meena Yadav**, Associate Professor, Department of Zoology, Maitreyi College, University of Delhi, Delhi.

**Brototi Roy**, Associate Professor, Department of Zoology, Maitreyi College, University of Delhi, Delhi

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**ISBN: 9788131717608**

## Animal Nutrition 6/e



**Peter McDonald | R. Edwards | C A Morgan | J F D Greenhalgh**



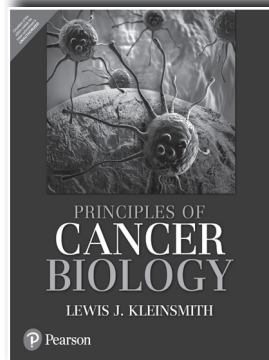
**708 | © 2002**

### ABOUT THE BOOK

The latest edition of this classic text, now in a larger format with improved artwork, continues to provide a clear and comprehensive introduction to the science and practice of animal nutrition.

### FEATURES

- New chapter on Animal Nutrition and the Consumers of Animal Products addressing contemporary concerns for safety in human diets.
- New chapter on Feed Additives.
- Major revisions of chapters on food analysis, lipids, metabolism, energy systems and protein evaluation.



ISBN: 9789332577480

## Principles of Cancer Biology

 Lewis J. Kleinsmith

 320 | © 2016

### ABOUT THE BOOK

*Principles of Cancer Biology*, is an engaging book focused on providing students with a “big picture” view of cancer. Author Lewis Kleinsmith has written an instructional text focusing on key concepts for both students and a general audience. For those instructors who wish to delve into particular aspects of cancer biology in greater depth, each chapter contains a list of suggested readings that expand the detail as needed.

The text also emphasizes the scientific evidence that underlies cancer biology, and teaches students to think critically about this evidence- as there are constantly new “breakthroughs” and reports in this field. For students who need the review, there are brief reviews of several topics related to DNA replication and repair, cell division, cell signaling, and inheritance patterns in chapters where these subjects are relevant. By including these reviews, the text is both accessible and engaging to a broad audience of readers who are studying cancer biology for the first time, as well as an interested general audience.

### FEATURES

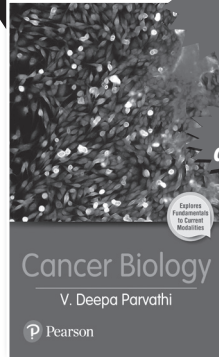
- Focus on the key concepts to help build a foundation for further study.
- Scientifically based. The text teaches students how to read and critically evaluate the current research.
- Every chapter is subdivided into a series of conceptual sections, each introduced by a Sentence Heading that summarizes the Principle being described in that section.
- Art that Teaches. Each piece of art in the text has been carefully considered to ensure that readers can easily absorb the data.
- A bulleted Summary of Main Concepts is found at the end of each chapter helping students review the major principles covered in that chapter.
- Suggested Reading lists are included at the end of each chapter with an emphasis on review articles and carefully selected research publications that students are likely to find especially relevant and understandable.

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| 1. What Is Cancer?                  | 9. Oncogenes                                   |
| 2. Profile of a Cancer Cell         | 10. Tumor Suppressor Genes and Cancer Overview |
| 3. How Cancers Spread               | 11. Cancer Screening, Diagnosis, and Treatment |
| 4. Identifying the Causes of Cancer | 12. Preventing Cancer                          |
| 5. Chemicals and Cancer             | Appendix A: Main Types of Cancer               |
| 6. Radiation and Cancer             | Appendix B: Human Carcinogens                  |
| 7. Infectious Agents and Cancer     | Glossary                                       |
| 8. Heredity and Cancer              | Index  |

### ABOUT THE AUTHOR

Lewis J. Kleinsmith, University of Michigan

**NEW****4 Colour  
Edition****E-Book  
available****ISBN: 9789356068056**

## Cancer Biology

 **V Deepa Parvathi**

 **256** |  **2023**

### ABOUT THE BOOK

This book on Cancer Biology is structured to build basic concepts in Neoplasia. Spread across seven chapters, the book provides a detailed description of the basics of cancer along with the molecular machinery, etiology and pathogenesis, cell signalling, hallmarks of cancer, cancer stem cells, animal models used for research, novel therapeutic approaches, case studies, clinical trials, and counselling. Additionally, review questions have been included to help the learners reflect their understanding.

### FEATURES

- Explains the core concepts using appropriate coloured illustrations and tables to concise voluminous data to help the reader comprehend the information.
- Includes case studies, clinical trials, and research on animal models to better understand the clinical aspects of cancer.
- Exclusive information on cancer stem cells provides students with an added advantage in regarding the differentiation potential, self-renewal, tumorigenic potential, and malignancy of cancer cells.

### CONTENTS

- |                                      |   |  |
|--------------------------------------|---|--|
| 1. Cancer: An Introduction           | 4. Cell Cycle and Cell Signaling                    | 7. Diagnosis, Prognosis and Counseling |
| 2. Generation of Cancer              | 5. Hallmarks of Cancer                              |  |
| 3. General Etiology and Pathogenesis | 6. Treatment and Other Novel Therapeutic Approaches |  |

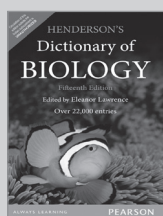
### ABOUT THE AUTHOR

V Deepa Parvathi is currently an Associate Professor at the Department of Biomedical Sciences, Sri Ramachandra Institute of Higher Education and Research (Deemed to be university), Chennai, India.

## DICTIONARY OF BIOLOGY

 **ALSO AVAILABLE...**

### DICTIONARY OF BIOLOGY: ALSO AVAILABLE



**Henderson's Dictionary of  
Biology, 15/e**

 **Lawrence**

**ISBN: 9789332517400**

**Pages: 776**

**E-Book  
available**

**DICTIONARY OF BIOLOGY**

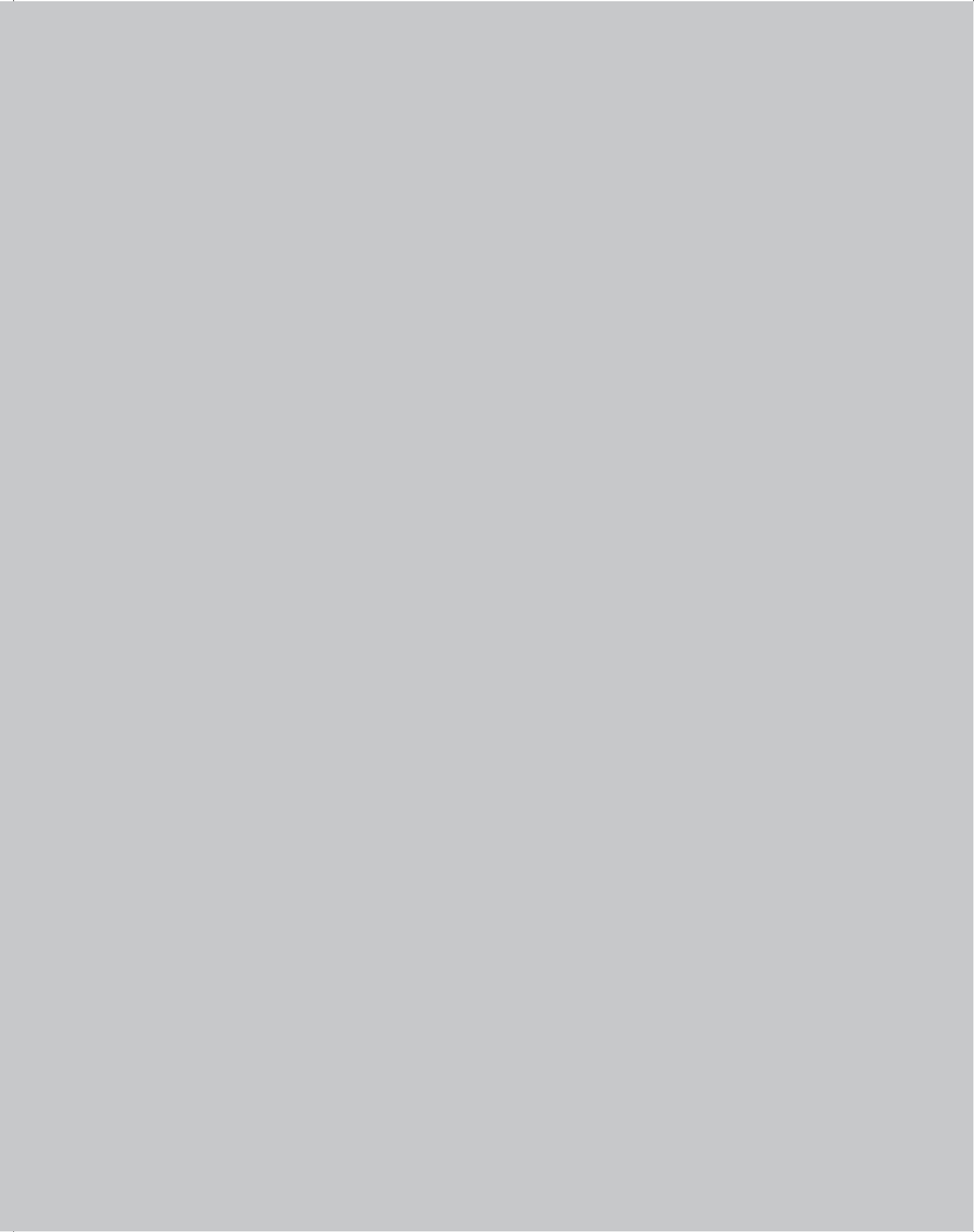
**13**



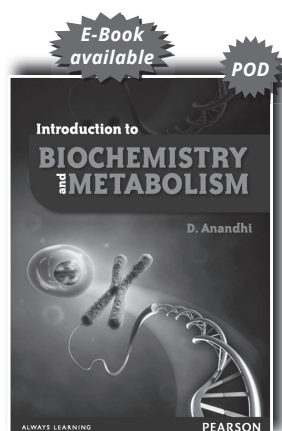


## Biotechnology

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➔ ALSO AVAILABLE...



ISBN: 9788131774854

## Introduction to Biochemistry and Metabolism

 **D Anandhi**

 **416**

### ABOUT THE BOOK

Designed as per the UGC curriculum, Introduction to Biochemistry and Metabolism meets the syllabus requirements of all universities offering a course on biochemistry and metabolism. The subject, a core paper for the students of botany, zoology, biotechnology and bioinformatics, is dealt with in detail across 13 chapters with emphasis on the metabolism of amino acids, carbohydrates, lipids and high energy compounds. Replete with illustrations and schematic representations, the book reinforces theoretical concepts with its concise, easy-to-follow approach making it an ideal textbook on the subject.

### FEATURES

- Comprehensive coverage of free radicals, antioxidation and proteins.
- Focus on enzymes, fatty acids and their metabolic activities.
- Elucidation of the detoxification mechanism.
- Disseminates information on diseases caused due to enzyme deficiencies.
- 150 illustrations and schematics to help readers understand how biochemical reactions and metabolic pathways work
- Includes laboratory techniques for qualitative and quantitative lipid analysis and estimation of proteins in food samples.

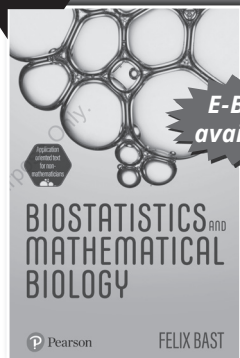
### CONTENTS

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| 2. Carbohydrates | 7. High energy compounds      | 12. Detoxication mechanism       |
| 3. Amino acids   | 8. Introduction to metabolism | 13. Antibiotics Literature Cited |
| 4. Lipids        | 9. Amino acid metabolism      |                                  |
| 5. Nucleic acid  | 10. Lipid metabolism          |                                  |

### ABOUT THE AUTHOR

D Anandhi is from the department of biochemistry, D G Vaishnav College, Chennai.

NEW



E-Book  
available

ISBN: 9789356066267

## Biostatistics and Mathematical Biology



Felix Bast



372 | © 2023

### ABOUT THE BOOK

A comprehensive textbook of biostatistics targeted at non-mathematicians at an advanced bachelor level and above.

The book sequentially covers basic mathematics topics essential for biologists, such as scientific methodology, levels of measurement, and explores more advanced concepts, including Bayes Theorem and Non-linear regression, thereby complying with the biostatistics syllabus of various universities as well as competitive examinations. This application oriented book focuses on the decision-making process during statistical tests and graphing, which test/graph to use, how much

would be the minimum sample size, how to interpret the results, and so on. Authored by Prof. Felix Bast, whose course in UGC SWAYAM, "Biostatistics and Mathematical Biology" had been ranked the 7th best MOOC worldwide in 2020".

### FEATURES

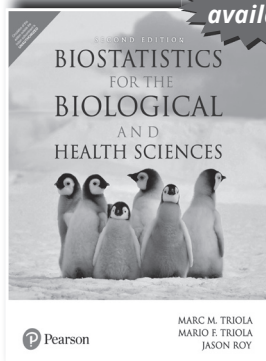
- Concise yet comprehensive textbook on the fundamental concepts of statistics.
- Focused on choosing the correct statistical test and interpreting the results.
- Non-mathematical approach; suitable for biologists and medical students.
- Clear-cut recommendations for various statistical tests and their variations.

### CONTENTS

1. Introduction to Biostatistics and Mathematical Biology
2. Types of Studies
3. Levels of Measurements
4. Summarizing Data: Tabular Presentation
5. Summarizing Data: Graphical Presentation
6. Charting with Excel
7. Descriptive Statistics: Point Estimates
8. Descriptive Statistics: Interval Estimates
9. Error Bars
10. Moments, Normality Tests and Outliers
11. Concepts of Population, Sample and Confidence Intervals
12. Statistical Hypothesis Testing
13. Statistical Significance and P-Values
14. Relationship between Confidence Intervals and Statistical Significance
15. Statistical Power and Choosing the Right Sample Size
16. t-distribution and Tests of Significance Based on t-distribution
17. F-distribution and Tests of Significance Based on the F-distribution
18. Post-Hoc Tests
19.  $\chi^2$ -distribution and Tests of Significance Based on  $\chi^2$ -distribution
20. Comparing Proportions
21. Gaussian, Lognormal, Binomial and Poisson Distributions
22. Pearson's Correlation
23. Simple Linear Regression
24. Non-linear Regression, Multiple Regression, and Logistic Regression
25. Non-parametric Tests
26. Permutations and Combinations
27. Probability
28. Likelihood and Bayes' Theorem
29. Key Concepts of Statistics and Statistical Pitfalls to Avoid

### ABOUT THE AUTHOR

**Prof. Felix Bast** is an award-winning Indian Science Communicator and a public educator working currently as a full Professor at Central University of Punjab, India. He is an expert panelist of Paris-based International Science Council, an elected fellow of Linnean Society of London, and a member of IUCN, Geneva. He holds Ph.D. in Marine Biology from MEXT, Japan (alumnus of Monbukagakusho:MEXT Japanese Govt. international doctoral fellowship), and served as expedition scientist in Indian Antarctic Mission.



E-Book  
available

## Biostatistics for the Biological and Health Sciences, 2/e



Marc M Triola | Mario F Triola | Jason Roy



728 | © 2020



ISBN: 9789353436537

### ABOUT THE BOOK

*Biostatistics for the Biological and Health Sciences* uses a variety of real-world applications to bring statistical theories and methods to life. Through these examples and a friendly writing style, the **2nd Edition** ensures that students understand concepts and develop skills in critical thinking, technology, and communication. The result of collaboration between two biological sciences experts and the author of the #1 statistics book in the US, this text provides an excellent introduction to statistics for students studying the biological, life, medical, and health sciences.

### FEATURES

- **Latest and best methods** used by professional statisticians are incorporated.
- **New examples, exercises, and Chapter Problems** provide relevant and interesting real-world statistical applications, including biometric security, self-driving cars, smartphone data speeds, and the use of drones for delivery.
  - **More than 1,600 exercises** are included in the text, and nearly 85% are brand new!
  - **More than 200 examples** are scattered throughout the book, and almost 85% are new!
- **EXPANDED! Larger data sets** give students a more comprehensive look at concepts.
- **UPDATED! Real Data Sets:** 89% of the exercises in the text use real data, and 87% of the examples feature real statistics.
- **Easy-to-assign exercises** are graded by difficulty, and exercises that are particularly difficult or involve a new concept appear at the end of exercise sets and are marked by an asterisk, making it easy for instructors to assign homework.
- **Statistical Software:** SPSS, SAS, STATDISK, MINITAB, Excel, and TI-83/84 Plus output appear throughout the text.

### CONTENTS

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|---|--|
| 1. Introduction to Statistics                         | 8. Hypothesis Testing                      |
| 2. Exploring Data with Tables and Graphs              | 9. Inferences from Two Samples             |
| 3. Describing, Exploring, and Comparing Data          | 10. Correlation and Regression             |
| 4. Probability  | 11. Goodness-of-Fit and Contingency Tables |
| 5. Discrete Probability Distributions                 | 12. Analysis of Variance                   |
| 6. Normal Probability Distributions                   | 13. Nonparametric Tests                    |
| 7. Estimating Parameters and Determining Sample Sizes | 14. Survival Analysis                      |

### ABOUT THE AUTHOR

**Marc Triola, MD, FACP** is the Associate Dean for Educational Informatics at NYU School of Medicine, the founding director of the NYU Langone Medical Center Institute for Innovations in Medical Education (IIME), and an Associate Professor of Medicine.

**Mario F. Triola** is a Professor Emeritus of Mathematics at Dutchess Community College, where he has taught statistics for over 30 years. Marty designed the original Statdisk statistical software, and he has written several manuals and workbooks for technology supporting statistics education.

**Jason Roy, PhD**, is Associate Professor of Biostatistics in the Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania.

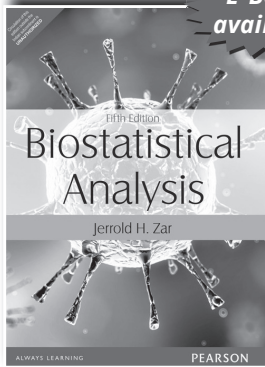
## Biostatistical Analysis, 5/e



Jerrold H. Zar



760 | © 2014



ISBN: 9789332536678

### ABOUT THE BOOK

Zar's *Biostatistical Analysis, Fifth Edition*, is the ideal textbook for graduate and undergraduate students seeking practical coverage of statistical analysis methods used by researchers to collect, summarize, analyze and draw conclusions from biological research. The latest edition of this best-selling textbook is both comprehensive and easy to read. It is suitable as an introduction for beginning students and as a comprehensive reference book for biological researchers and for advanced students.

This book is appropriate for a one- or two-semester, junior or graduate-level course in biostatistics, biometry, quantitative biology, or statistics, and assumes a prerequisite of algebra.

### FEATURES

- A broad collection of data-analysis procedures and techniques are presented, covering a wide variety of biological research, such as physiology, genetics, ecology, behavior, morphology.
- The most comprehensive treatment available includes coverage of the basics of statistical analysis, and also the following topics rarely or never found in statistics books for biologists:
  - Diversity
  - Polynomial regression
  - Multidimensional contingency tables
  - Stepwise regression
  - Nonparametric multiple comparisons
  - Higher order factorial analyses
  - of variance
  - Circular distributions
  - Power and sample size determinations.
- An orderly organization and presentation of topics, with cross-referencing as appropriate.
- The readable and accessible approach allows students with no previous statistical background or mathematical expertise beyond simple algebra to understand the material presented.
- The thoughtful presentation encourages students to think about the value of each statistical technique, as opposed to merely plugging numbers into formulae.
- The exposition considers complex procedures such as factorial analysis of variance and multiple regression in terms of the interpretation of typical computer output.
- A wealth of graphs and other figures are integrated to visually support concepts under discussion.
- A uniquely comprehensive set of statistical tables—more than 40 in all—facilitates statistical analyses without having to consult a separate book. This includes tables that are unique to this book.
- Worked examples for all major procedures guide readers step-by-step through the techniques, demonstrating each of the important concepts.
- An extensive bibliography directs readers to further relevant literature.

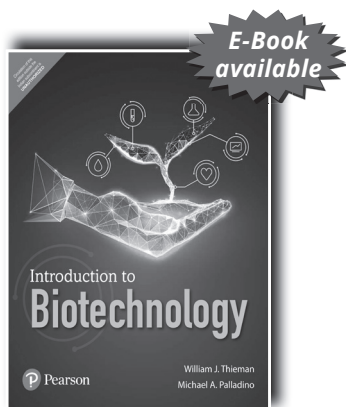
### CONTENTS

- |   |  |  |
|---|--|--|
| 1. Data: Types and Presentations                        | 13. Data Transformations                         | 22. Testing for Goodness of Fit                    |
| 2. Populations and Samples                              | 14. Multiway Factorial Analysis of Variance      | 23. Contingency Tables                             |
| 3. Measures of Central Tendency                         | 15. Nested (Hierarchical) Analysis of Variance   | 24. Dichotomous Variables                          |
| 4. Measures of Variability and Dispersion               | 16. Multivariate Analysis of Variance            | 25. Testing for Randomness                         |
| 5. Probabilities  | 17. Simple Linear Regression                     | 26. Circular Distributions: Descriptive Statistics |
| 6. The Normal Distribution                              | 18. Comparing Simple Linear Regression Equations | 27. Circular Distributions: Hypothesis Testing     |
| 7. One-Sample Hypotheses                                | 19. Simple Linear Correlation                    | 28. Answers to Exercises                           |
| 8. Two-Sample Hypotheses                                | 20. Multiple Regression and Correlation          | 29. Literature Cited                               |
| 9. Paired-Sample Hypotheses                             | 21. Polynomial Regression                        |  |
| 10. Multisample Hypotheses and the Analysis of Variance |  |  |
| 11. Multiple Comparisons                                |  |  |
| 12. Two-Factor Analysis of Variance                     |  |  |

## ABOUT THE AUTHOR

**Jerrold H. Zar** received his undergraduate degree in Biological Sciences from Northern Illinois University in 1962. He later earned his M.S. and Ph.D. degrees in biology and zoology from the University of Illinois at Urbana-Champaign. Zar then returned to Northern Illinois University for 34 years to serve in a variety of capacities. He joined the faculty at NIU as an Assistant Professor in 1968 and quickly rose through the ranks of associate and full professor to become Chair of the Department of Biological Sciences in 1978. He served two terms as Chair of the Department and then, became the Vice Provost for Graduate Studies and Research and Dean of the Graduate School. He was a founder of the Illinois Minority Graduate Incentive Program and the Illinois Consortium for Educational Opportunities Program, where he helped create and protect fellowship opportunities for minority graduate students at universities across the state. Zar is a member of 17 professional scientific societies, including being an elected fellow of the American Association for the Advancement of Science. His many research publications cover a range of topics, from statistical analysis to physiological adaptations of animals to their environment.

## INTRODUCTORY BIOTECHNOLOGY



ISBN: 9789353945350

### Introduction to Biotechnology, 4/e



**William J. Thieman | Michael A. Palladino**



**448 | © 2021**



### ABOUT THE BOOK

Introduction to Biotechnology brings the latest information and emphasizes the future of biotechnology and the biotechnology student's role with balanced coverage of basic cell and molecular biology, fundamental techniques, historical accounts, new advances, and hands-on applications. The 4th Edition features content updates in every chapter that reflect the most relevant, up-to-date changes in technology, applications, ethical issues, and regulations. Additionally, every chapter now includes an analytic Case Study that highlights current research and asks students to use what they've learned about key chapter concepts to answer questions.

### FEATURES

- Coverage of recent research and developments includes discussions of gene editing approaches like CRISPR, precision medicine, immunotherapies, biosimilar drugs, transgenic crops, 3D bioprinting of tissues and organs, the Human Microbiome Project, and the Cancer Atlas Genome Project.
- Tools of the Trade Boxes provide details on modern techniques and methods related to each chapter's content and the biotech industry.
- Making a Difference inspires and engages students by discussing how real people, real companies, and real organizations are putting biotech to use to improve the quality of life.
- Forecasting the Future begins each chapter and highlights biotechnology-driven questions that have yet to be answered, are in the process of being researched, or are topics/research/policy that are under development and will have an impact on our future.
- 18 New - "You Decide" activities provide expanded coverage of ethics based on contemporary ethical issues. Thirty-seven "You Decide" boxes, integrated across all chapters, stimulate ethical discussion by giving students information relating to the social and ethical implications of biotechnology and regulations and asking students to grapple with open-ended questions.

## CONTENTS

1. The Biotechnology Century and Its Workforce
  2. An Introduction to Genes and Genomes
  3. Recombinant DNA Technology and Genomics
  4. Proteins as Products
  5. Microbial Biotechnology
  6. Plant Biotechnology
  7. Animal Biotechnology
  8. DNA Fingerprinting and Forensic Analysis
  9. Bioremediation
  10. Aquatic Biotechnology
  11. Medical Biotechnology
  12. International Biotechnology Regulations
  13. Ethics and Biotechnology
- Appendix I: Answers to Questions  
Appendix II: The 20 Amino Acids of Proteins  
Glossary

## ABOUT THE AUTHOR(S)

**William J. Thieman** taught biology at Ventura College for 40 years and biotechnology for 11 years before retiring from full time teaching in 2005. He continues to serve as an advisor to the college biotechnology program. He received his B.A. in biology from California State University at Northridge in 1966 and his M.A. degree in Zoology in 1969 at UCLA. In 1995, he started the biotechnology program at Ventura College. In 1998, he added the laboratory skills course, and it was articulated as a state-approved vocational program. He identified technical skills needed for the program while serving three summer internships at Amgen, Biosource (now Invotrogen) and Biopool. The internships provided an opportunity to learn protocols, interact with lab directors, and query technicians, focusing on identifying the skills needed in these biotechnology companies. He routinely engaged his contacts at these biotechnology companies to lead lab protocols and describe their experiences to his classes.

**Michael A. Palladino** is Vice Provost for Graduate Studies, former Dean of the School of Science and Professor of Biology at Monmouth University in West Long Branch, New Jersey. He received his B.S. degree in Biology from Trenton State College (now known as The College of New Jersey) in 1987 and his Ph.D. in Anatomy and Cell Biology from the University of Virginia in 1994.

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# Concepts of Genetics, 11/e



William S. Klug | Michael R. Cummings | Charlotte A. Spencer | Michael A. Palladino



816 | © 2020

## ABOUT THE BOOK

Pearson presents the Eleventh Edition of *Concepts of Genetics*—a text now entering its fourth decade of providing support for students studying in this field, has occasioned still another fresh look. In addition to the normal updating that is inevitably required, this new edition focusses on the need to increase the opportunities for instructors and students to engage in **active and cooperative learning approaches** and the need to provide more **comprehensive, cutting-edge coverage of important and emerging topics** in genetics. This edition emphasizes the fundamental ideas of genetics and a strong problem-solving approach, while exploring modern techniques and applications of genetic analysis.

## FEATURES

- **Modern Approaches to Understanding Gene Function** feature challenges students to understand how modern gene targeting approaches have dramatically advanced our understanding of gene function.
- **Evolving Concept of the Gene** is a short feature, integrated in appropriate chapters, that highlights how scientists' understanding of what a gene is has changed over time.
- **Three new Special Topics in Modern Genetics** mini-chapters explore cutting-edge topics, including updated content on Emerging Roles of RNA, Genetically Modified Foods, and Gene Therapy.
- **Neurogenetics** has been completely reworked and redefined to reflect the wealth of information regarding the impact of genetics on the field of neurobiology, linking genetic analysis to brain function and brain disorders.

## CONTENTS

### Part One: Genes, Chromosomes, and Heredity

1. Introduction to Genetics
2. Mitosis and Meiosis
3. Mendelian Genetics
4. Extensions of Mendelian Genetics
5. Chromosome Mapping in Eukaryotes
6. Genetic Analysis and Mapping in Bacteria and Bacteriophages
7. Sex Determination and Sex Chromosomes
8. Chromosome Mutations: Variation in Number and Arrangement
9. Extranuclear Inheritance

### Part Two: DNA: Structure, Replication, and Variation

10. DNA Structure and Analysis
11. DNA Replication and Recombination
12. DNA Organization in Chromosomes

### Part Three: Gene Expression, Regulation, and Development

13. The Genetic Code and Transcription
14. Translation and Proteins
15. Gene Mutation, DNA Repair, and Transposition
16. Regulation of Gene Expression in Prokaryotes
17. Regulation of Gene Expression in Eukaryotes
18. Developmental Genetics
19. Cancer and Regulation of the Cell Cycle

### Part Four: Genomics

20. Recombinant DNA Technology
21. Genomics, Bioinformatics, and Proteomics
22. Applications and Ethics of Genetic Engineering and Biotechnology

### Part Five: Genetics of Organisms and Populations

23. Quantitative Genetics and Multifactorial Traits
24. Neurogenetics
25. Population and Evolutionary Genetics

## ABOUT THE AUTHOR(S)

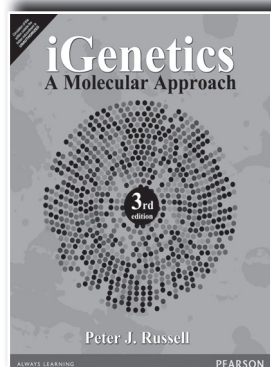
**William S. Klug** is an Emeritus Professor of Biology at The College of New Jersey (formerly Trenton State College) in Ewing, New Jersey, where he served as Chair of the Biology Department for 17 years.

**Michael R. Cummings** is Research Professor in the Department of Biological, Chemical, and Physical Sciences at Illinois Institute of Technology, Chicago, Illinois.

**Charlotte A. Spencer** is a retired Associate Professor from the Department of Oncology at the University of Alberta in Edmonton, Alberta, Canada.

**Michael A. Palladino** is Dean of the School of Science and Professor of Biology at Monmouth University in West Long Branch, New Jersey.

## iGenetics: A Molecular Approach, 3/e



ISBN: 9789332571624

 **Peter J. Russell**

 **864** | © **2016**

### ABOUT THE BOOK

With its modern chapter organization and new “Focus on Genomics” boxes, *iGenetics: A Molecular Approach* reflects the increasing molecular emphasis in today's experimental study of genes while helping students develop problem-solving skills and an appreciation for classic experiments. Although molecular topics are presented first, instructors can assign the chapters in any sequence.

Pedagogical features such as chapter-opening “Key Questions” and strategically placed “Keynotes” help students to efficiently master genetic concepts. The Genetics Place Companion Website contains interactive iActivities and narrated animations that help students visualize and understand processes and concepts that are illustrated in the text.

### FEATURES

- Modern chapter organization covers all major areas of genetics, balancing molecular and classical aspects to give students an integrated view of genetic principles.
- The text's inquiry-based approach engages students in the process of science.
- Step-by-step examples of problem solving throughout the book represent a wide range of topics and difficulty levels.
- Key Questions, appear at the beginning of each chapter, focus student attention in advance on the major concepts within their reading.
- Keynotes, strategically placed throughout the chapter, summarize important ideas and allow students to check their progress.

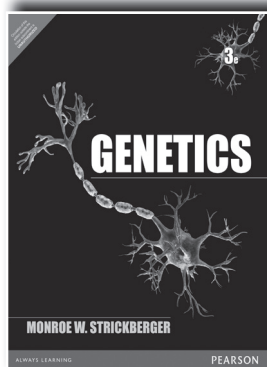
### CONTENTS

1. Genetics: An Introduction
2. DNA: The Genetic Material
3. DNA Replication
4. Gene Control of Proteins
5. Gene Expression: Transcription
6. Gene Expression: Translation
7. DNA Mutation, DNA Repair, and Transposable Elements
8. Genomics
9. Functional and Comparative Genomics
10. Recombinant DNA Technology
11. Mendelian Genetics
12. Chromosomal Basis of Inheritance
13. Extensions of and Deviations from Mendelian Genetic Principles
14. Genetic Mapping in Eukaryotes
15. Genetics of Bacteria and Bacteriophages
16. Variations in Chromosome Structure and Number
17. Regulation of Gene Expression in Bacteria and Bacteriophages
18. Regulation of Gene Expression in Eukaryotes
19. Genetic Analysis of Development
20. Genetics of Cancer
21. Quantitative Genetics
22. Population Genetics
23. Molecular Evolution

### ABOUT THE AUTHOR

**Peter J. Russell** received his B.Sc. in Biology from the University of Sussex, U.K., in 1968 and his Ph.D. in Genetics from Cornell University in 1972. He then joined the Biology faculty of Reed College in 1972 where he is currently Professor of Biology. Russell teaches an upper-division genetics and molecular biology lecture/laboratory course, the genetics section of the introductory biology course, an advanced seminar course in molecular virology, and advises senior thesis research students. He is also the author of a number of successful biology and genetics textbooks.

## Genetics, 3/e



ISBN: 9789332555105

 **Monroe W. Strickberger**

 **864** |  **2015**

### ABOUT THE BOOK

*Genetics* occupies a unique central position among the various biological sciences because of its diverse specializations. This acclaimed book provides the basic theoretical information on genetics, the study of heredity and details some of the experiments and reasoning which yield this information. The book is organized into six parts and deals with the identification, transmission and distribution, arrangement, structure, and function of genetic material. The last part of the book deliberates on the course of genetic material in populations. The comprehensive material is supported by a multitude of illustrations and references and problems in every chapter.

### CONTENTS

#### Part I Identification Of Genetic Material:

1. History of the Problem
2. Cellular Division and Chromosomes
3. Reproductive Cycles
4. Nucleic Acids
5. Replication and Synthesis of Nucleic Acids

#### Part II Transmission And Distribution Of Genetic Material:

6. Mendelian Principles: I. Segregation
7. Mendelian Principles: II. Independent Assortment
8. Probability and Statistical Testing
9. Dominance Relations and Multiple Alleles in Diploid Organisms
10. Environmental Effects and Gene Expression

11. Gene Interaction and Lethality
12. Sex Determination and Sex Linkage in Diploids
13. Maternal Effects and Cytoplasmic Heredity
14. Quantitative Inheritance
15. Analysis of Quantitative Characters

#### Part III Arrangement Of Genetic Material:

16. Linkage and Recombination
17. Gene Mapping in Diploids
18. Recombination in Fungi
19. Recombination in Bacteria
20. Recombination in Viruses


#### Part IV Change And Structure Of Genetic Material:

21. Chromosome Variation in Number

### ➡ ALSO AVAILABLE...




**POD** **Introduction to Quantitative Genetics, 4/e**


 **Falconer**

ISBN: 9788131727409

Pages: 480

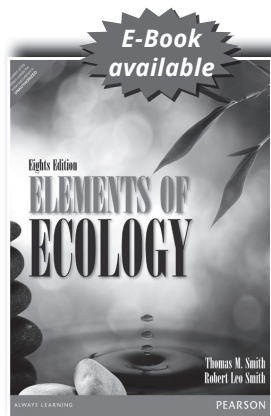


**POD** **Nanotechnology: A Gentle Introduction to the Next Big Idea**

 **Ratner**

ISBN: 9788177587432

Pages: 280



ISBN: 9789332536692

## Elements of Ecology, 8/e

 **Thomas M. Smith | Robert Leo Smith**

 **688 | © 2014**

### ABOUT THE BOOK

Known for its evolution theme and strong coverage of the relevance of ecology to everyday life and the human impact on ecosystems, the thoroughly revised Eighth Edition features refined quantitative exercises, a restructured chapter on life history, a thoroughly revised species interactions unit including a chapter introducing the subject, and a new chapter on species interactions.

To emphasize the dynamic and experimental nature of ecology, each chapter draws upon current research in the various fields of ecology while providing accessible examples that help students understand species natural history, specific ecosystems, the process of science, and ecological patterns at both an evolutionary and demographic scale.

To engage students in using and interpreting data, a wide variety of Quantifying Ecology boxes walk through step-by-step examples of equations and statistical techniques. The enhanced companion website ([www.ecologyplace.com](http://www.ecologyplace.com)) features new MapMaster™ interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHit!, and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText.

### FEATURES

- Interpreting Ecological Data exercises help students test their understanding of graphs and data and to consider different outcomes.
- The Ecology Place companion website is referenced in the text and features new MapMaster interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHit!, and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText. A subscription to the Ecology Place is included with each new copy of the text for no additional charge ([www.ecologyplace.com](http://www.ecologyplace.com)).
- Quantifying Ecology boxes help students develop the quantitative skills they need to interpret ecological data, research, and models. Skills are reinforced by a set of follow-up questions and links to GRAPHit! and QUANTIFYit! on the companion website ([www.ecologyplace.com](http://www.ecologyplace.com)).
- Field Studies discuss ecological research performed by young up-and-coming scientists, and challenge students to interpret the results of the featured research.
- Ecological Issues essays describe how humans influence the study of ecology. For example, the short essay “The Ecology of Antibiotic Resistance” discusses how antibiotic resistance is a result of natural selection. Each essay is followed by a set of critical thinking questions.
- Engaging introductions give students a “big picture” overview of the coming chapters in each of the eight parts of the book, so they can understand how various topics interrelate.
- Landscape Ecology chapter explores the role of disturbance in ecosystems.
- Further Readings at the end of each chapter emphasize how the text is based on real scientific studies. These Further Readings are annotated to explain their relevance to the student/instructor.

### CONTENTS

#### I. The Physical Environment

2. Climate
3. The Aquatic Environment
4. The Terrestrial Environment

#### II. The Organism and its Environment


5. Ecological Genetics: Adaptation and Natural Selection
6. Plant Adaptations to the Environment
7. Animal Adaptations to the Environment

#### III. Populations

8. Properties of Populations
9. Population Growth
10. Life History
11. Intraspecific Population Regulation
12. Metapopulations

#### IV. Species Interactions

13. Species Interactions, Population Dynamics and Natural Selection

- 
- 14. Interspecific Competition
  - 15. Predation
  - 16. Parasitism and Mutualism

#### V. Community Ecology

- 17. Community Structure
- 18. Factors Influencing the Structure of Communities
- 19. Community Dynamics
- 20. Landscape Ecology

#### VI. Ecosystem Ecology

- 21. Ecosystem Energetics
- 22. Decomposition and Nutrient Cycling

- 23. Biogeochemical Cycles

#### VII. Biogeographical Ecology

- 24. Terrestrial Ecosystems
- 25. Coastal and Wetland Ecosystems
- 26. Land-Water Margins
- 27. Large-scale Patterns of Biological Diversity

#### VIII. Human Ecology

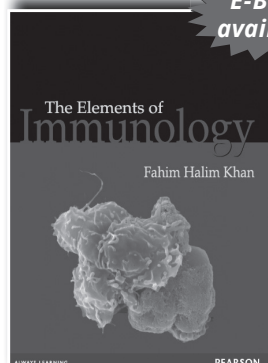
- 28. Population Growth, Resource Use, and Sustainability
- 29. Global Climate Change

### ABOUT THE AUTHOR(S)

**Thomas M. Smith**, Associate Professor in Environmental Sciences at the University of Virginia, received his Ph.D. in ecology from the University of Tennessee in 1982. The main focus of his research over the past two decades has been to develop an individual based theory of community and ecosystems dynamics. As part of this work he has served on numerous national and international panels that have addressed the potential influence of human activities on the global environment. He has authored over 70 publications based on his research, and he has been recognized as one of the most cited scientists in the field of global change research.

**Robert L. Smith** holds a Ph.D. in Wildlife Biology from Cornell University. He is Professor Emeritus of Ecology at West Virginia University. He has spent over 30 years teaching Ecology and conducting field research throughout the world. His teaching responsibilities have involved mostly undergraduate courses in general ecology and graduate courses in population ecology and wildlife management. His research has included forest-fire related problems in southern West Virginia, vegetational development and succession on abandoned and reclaimed surface mines, the relation between forest vegetational structure and the forest bird community, and forest habitat assessment and habitat evaluation procedures based on vegetational structure.

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ISBN: 9788131711583

## The Elements of Immunology



Fahim Halim Khan



508 | © 2009



### ABOUT THE BOOK

*The Elements of Immunology* is designed to introduce readers to the exciting world of immunology, the people who populate it and foster a curiosity to question and know more. The book is supported by a consistent, colourful art programme. The detailed explanation of concepts and terms, and the deconstruction of complex molecular mechanisms into simple, easy-to-remember steps help students focus on the fundamentals without any distractions. Packed with extensive Web-based supplements, the book enables students to visualize concepts, thereby enriching the learning process. The book, comprising twenty chapters, has numerous pedagogical elements built into it. Margin snippets present interesting and relevant information without breaking the flow of the text. Margin definitions highlight the key terms for easy identification and recollection. Each chapter talks about a relevant molecular biology technique, thus providing an insight into the practical aspect of immunology as well. A glossary at the end of the book lists out the important terms used.

### FEATURES

- Simple and lucid language explaining core concepts
- Rich pedagogy that facilitates learning
- Colourful and consistent art programme comprising over 300 four-colour illustrations that helps to visualize and comprehend concepts better
- 400 end-of-chapter questions help revise the key concepts
- Discussion of the latest developments in the area of immunology such as MHC haplotype matching for cell transplantation, latest antiretroviral drugs developed against HIV, etc.
- Description of key contributors, researchers and their landmark experiments
- Packed with supplements and media resources
  - Over 30 animations that depict key concepts in three dimensions
  - A question bank containing over 400 questions and clinical case studies along with lecture slides including artwork from the book, as supplements to the text, specifically for the instructors

### CONTENTS

- |  |  |
|--|--|
| 1. Introduction to the Immune System     | 11. Antigen Processing and Presentation      |
| 2. Cells and Organs of the Immune System | 12. Cell-mediated Immunity                   |
| 3. Antigens                              | 13. Hypersensitivity                         |
| 4. Antibodies                            | 14. Cell Migration and Inflammatory Response |
| 5. Generation of Antibody Diversity      | 15. Immune Response to Infectious Agents     |
| 6. Major Histocompatibility Complex      | 16. Vaccines                                 |
| 7. T-cell Receptor                       | 17. Transplantation Immunology               |
| 8. T-cell Development and Activation     | 18. Cancer and the Immune System             |
| 9. B-cell Development and Activation     | 19. Primary and Secondary Immunodeficiencies |
| 10. Complement System                    | 20. Autoimmunity and Autoimmune Diseases     |

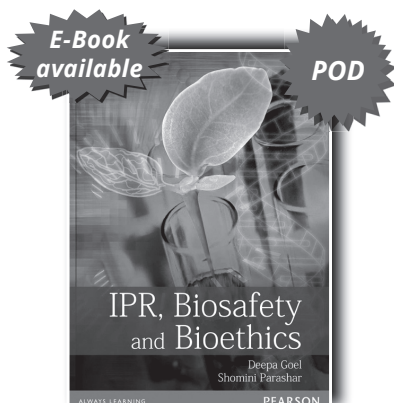
### ABOUT THE AUTHOR

Fahim Halim Khan Department of biochemistry at the Aligarh Muslim University.

## IPR, Biosafety and Bioethics

 **Deepa Goel | Shomini Parashar**

 **248 | © 2013**



**ISBN: 9788131774700**

### ABOUT THE BOOK

This book provides a broad coverage of three areas of patenting intellectual property rights (IPR), biosafety and bioethics. It creates awareness about the value of IPR in our lives. The book also fosters a better understanding of the rights associated with IPR such as copyright, patent, trademarks, industrial designs, geographical indications and so on. Biosafety and bioethical issues prevalent in modern society are discussed. The text covers the complete syllabi of all major Indian universities and caters to the needs of Indian students.

### FEATURES

- Discusses all aspects of the subject in a simple and lucid manner
- Contains review question and multiple-choice questions for practice
- Provides unmatched pedagogy:
  - 100 review questions
  - 120 multiple-choice questions

### CONTENTS

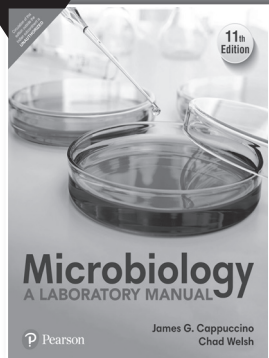
1. Meaning and Justification of Patenting an Invention
2. History and Evolution of Patent Law
3. Classification of Patents
4. Grant of Patent and Patenting Authorities
5. Patent Owner: Rights and Duties
6. Protection of Plant varieties and Farmers' Right Act, 2001
7. Patent law- Present Scenario
8. Introduction to Biosafety
9. GMOs: Concerns and Challenges
10. National and International Regulatory Mechanism for GMO
11. Biosafety of Genetically Engineered Products
12. Allergenecity: Assessment of Genetically Modified food
13. Introduction to Bioethics
14. NGOs for Biosafety and Bioethics
15. Web-based Information of Biosafety on GMO
16. Good Laboratory Biosafety Practices
17. Case Studies in IPR and Biosafety

### ABOUT THE AUTHOR(S)

**Deepa Goel** is Assistant Professor at the Department of Biotechnology, IMS Engineering College, Ghaziabad. Her core area of interest is the development of transgenic plants with elite traits.

**Shomini Parashar** is Assistant Professor at the Department of Biotechnology, IMS Engineering College, Ghaziabad. Her core area of interest is screening of microbes with novel traits that are useful to mankind.

**NEW**



**ISBN: 9789353436568**

## Microbiology: A Laboratory Manual, Global Edition, 11/e



**James G. Cappuccino | Chad T. Welsh**



**568 | © 2023**

### ABOUT THE BOOK

Easy to adapt for almost any microbiology lab course, this versatile, comprehensive, and clearly written manual can be paired with any undergraduate microbiology text. Known for its thorough coverage, straightforward procedures, and minimal equipment requirements, the Eleventh Edition incorporates current safety protocols from governing bodies such as the EPA, ASM, and AOAC. The new edition also includes alternate organisms for experiments for easy customization in Biosafety Level 1 and 2 labs. New lab exercises have been added on Food Safety and revised experiments, and include options for alternate media, making the

experiments affordable and accessible to all lab programs. Ample introductory material, engaging clinical applications, and laboratory safety instructions are provided for each experiment along with easy-to-follow procedures and flexible lab reports with review and critical thinking questions.

### FEATURES

- A new experiment on the Propagation of Isolated Bacteriophage Cultures has been added that guides students to isolate bacteriophages for genetic manipulation.
- Biosafety Levels (BSLs) have been added to the Eleventh Edition to alert students to appropriate safety techniques.
- Tips for Success appear in select experiments and draw attention to common mistakes and stumbling blocks in the lab.
- Revised experiments include options for alternate media, making the experiments affordable and accessible to all sizes of lab programs. Experiment 60 has been revised to focus on the normal microbiota of human skin and the importance of hand washing.
- Easy-to-adapt Lab Reports include blank spaces or options for “alternate organisms” for easy customization with organisms that are readily available.
- Numerous photographs in full color and illustrations help students visualize techniques and expected results.

### CONTENTS

Part I Basic Laboratory Techniques for Isolation, Cultivation, and Cultural Characterization of Microorganisms

1. Culture Transfer Techniques
2. Techniques for Isolation of Pure Cultures
3. Cultural Characteristics of Microorganisms
4. Microscopic Examination of Stained Cell Preparations
5. Microscopic Examination of Living Microorganisms Using a Hanging-Drop Preparation or a Wet Mount

Part II Bacterial Staining

6. Preparation of Bacterial Smears
7. Simple Staining
8. Negative Staining
9. Gram Stain
10. Acid-Fast Stain
11. Differential Staining for Visualization of Bacterial Cell Structures

Part III Cultivation of Microorganisms: Nutritional and Physical Requirements, and Enumeration of Microbial Populations

12. Nutritional Requirements: Media for the Routine Cultivation of Bacteria
13. Use of Differential, Selective, and Enriched Media
14. Physical Factors: Temperature
15. Physical Factors: pH of the Extracellular Environment
16. Physical Factors: Atmospheric Oxygen Requirements
17. Techniques for the Cultivation of Anaerobic Microorganisms
18. Serial Dilution—Agar Plate Procedure to Quantitate Viable Cells
19. The Bacterial Growth Curve

#### Part IV Biochemical Activities of Microorganisms

20. Extracellular Enzymatic Activities of Microorganisms
21. Carbohydrate Fermentation
22. Triple Sugar—Iron Agar Test
23. IMViC Test
24. Hydrogen Sulfide Test
25. Urease Test
26. Litmus-Milk Reactions
27. Nitrate Reduction Test
28. Catalase Test
29. Oxidase Test
30. Utilization of Amino Acids
31. Genus Identification of Unknown Bacterial Cultures

#### Part V The Protozoa

32. Free-Living Protozoa
33. Parasitic Protozoa

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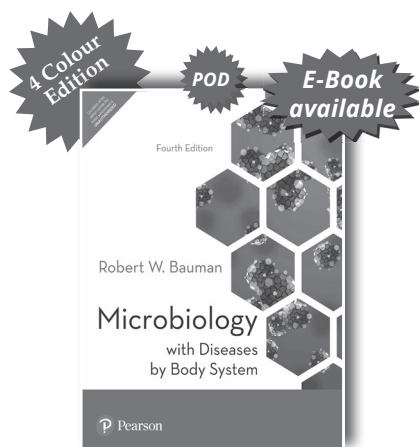
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### ABOUT THE AUTHOR

**James G. Cappuccino** SUNY, Rockland Community College

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**ISBN: 9789332587441**

## Microbiology with Diseases by Body System, 4/e

 **Robert W. Bauman**

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### ABOUT THE BOOK

Designed for pre-nursing and allied health students (and also mixed-majors courses), *Microbiology with Diseases by Body System, Fourth Edition* retains the hallmark art program and clear writing style that have made Robert Bauman's book a success. This Third Edition features compelling clinical content related to students' future healthcare careers and abundant opportunities for applied student practice. Chapter-opening Clinical Cases, Emerging Diseases boxes, and Clinical Applications boxes introduce students to real-world clinical situations. Student comprehension is ensured with end-of-chapter practice that encompasses

applied, visual, and conceptual understanding.

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2. Cell Structure and Function
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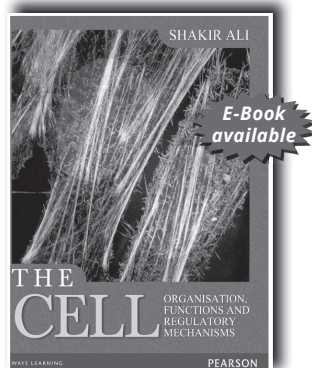
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8. Controlling Microbial Growth in the Environment
9. Controlling Microbial Growth in the Body: Antimicrobial Drugs
10. Characterizing and Classifying Prokaryotes
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19. Microbial Diseases of the Nervous System and Eyes
20. Microbial Cardiovascular and Systemic Diseases
21. Microbial Diseases of the Respiratory System
22. Microbial Diseases of the Digestive System
23. Microbial Diseases of the Urinary and Reproductive Systems
24. Applied and Environmental Microbiology

### ABOUT THE AUTHOR

Robert W. Bauman, Amarillo College

## MOLECULAR & CELL BIOLOGY



ISBN: 9788131773284

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 **Shakir Ali**

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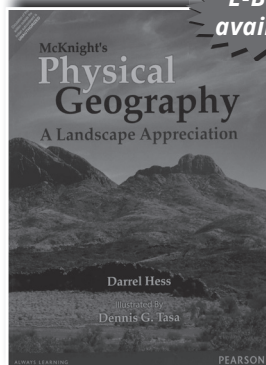
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## **Geology & Earth Science**

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## McKnight's Physical Geography: A Landscape Appreciation, 10/e

 **Darrel Hess | Dennis G. Tasa**

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### ABOUT THE BOOK

Carrying forth Tom L. McKnight's well-known thematic focus on landscape appreciation, this best-seller fosters a solid understanding of Earth and its physical geography. Its clear writing style, superior art program, and abundant pedagogy appeal to a wide variety of students. This edition includes thoroughly updated content and introduces renowned illustrator Dennis Tasa—yet it maintains the proven approach first presented by McKnight more than two decades ago.

### FEATURES

- Unique landscape appreciation approach and clear presentation of concepts make this hallmark classic text engaging and easily accessible to students of all backgrounds.
- An excellent new cartographic and illustration program by renowned geoscience Illustrator Dennis Tasa provides:
- Hundreds of maps with shaded relief where appropriate
- Line art with numerous multi-part illustrations that capture sequence and evolution to help students understand various processes
- Major photos paired with locator maps to enhance geographic literacy.
- Global environmental change is integrated and discussed extensively throughout the book.

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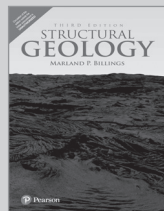
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**Darrel Hess** is professor of geography at City College of San Francisco, where he served as chair of the Earth Sciences department from 1995-2009. He regularly teaches physical geography, economic geography, and human geography. Hess received his B.A. in geography from UC Berkeley and his M.A. in geography from UCLA.

**Dennis Tasa** has been a renowned illustrator of many bestselling geoscience textbooks since 1978, including Physical Geography by Darrel Hess, Laboratory Manual in Physical Geology by the American Geosciences Institute and the National Association of Geoscience Teachers, as well as the physical geology, Earth science, and meteorology franchises by Tarbuck and Lutgens.

**Tom L. McKnight** taught geography at UCLA from 1956 to 1993. He received his bachelor's degree in geology from Southern Methodist University in 1949, his master's degree in geography from the University of Colorado in 1951, and his Ph.D. in geography and meteorology from the University of Wisconsin in 1955. During his long academic career, Tom served as chair of the UCLA Department of Geography from 1978 to 1983, and was director of the University of California Education Abroad Program in Australia from 1984 to 1985.

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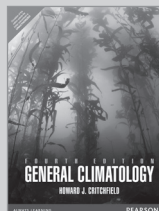
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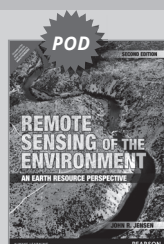
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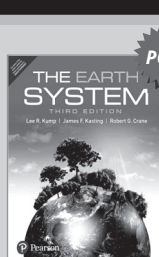


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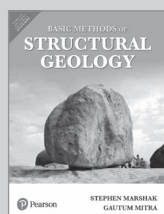


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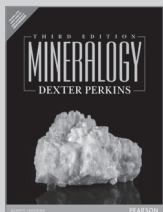


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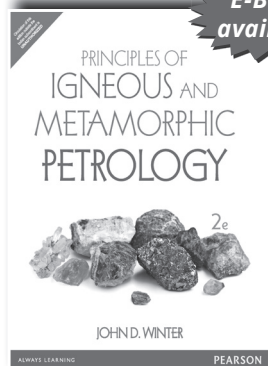


John D. Winter



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ISBN: 9789332550407

### ABOUT THE BOOK

Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-date coverage of both igneous and metamorphic petrology in a single volume—and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques—and enjoy the insights of the results—rather than tinker with theory and develop everything from first principles.

### FEATURES

- A balanced presentation limits the theory to the extent that students can practice it on real occurrences—without such excessive detail that the course becomes more like chemistry than geology.
- A survey of actual occurrences of igneous and metamorphic rocks, and processes that produce them, is provided. This section is often greatly condensed in most other texts, but it is the most interesting and dynamic aspect of petrology.
- A techniques/occurrences approach for both igneous and metamorphic rocks that first presents the techniques, then applies them to assess a field area, and then expands the techniques as necessary if the field examples call for it.
- A comprehensive section on petrogenesis, particularly igneous petrogenesis, covers important igneous petrogenetic associations
- An accessible approach to mathematics, chemistry, and physics requires only a working knowledge of algebra; calculus is occasionally discussed, but is not required. Chemical and physical principles are presented early on, and at a level that is comprehensible and accessible.
- Worked examples, problems, and computer-related problems, found at the end of many chapters, carefully integrate a number of problems and computer programs
- Spreadsheets are used extensively in worked examples and problems. Spreadsheets, data files, and other programs
- Approximately 350 figures and tables are provided.

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## ABOUT THE AUTHOR

**John D. Winter** did his undergraduate work in geology at the University of Illinois at Urbana, and earned his M.S. and Ph.D. at the University of Washington in Seattle. Now Professor of Geology at Whitman College in Walla Walla, Washington, his principal fields of interest are in metamorphic petrology, mineralogy and crystallography, and geochemistry. He has spent several summers in Greenland, a summer in Labrador, and another in Norway, where he studied processes that take place during the formation and subsequent development of the ancient deep continental crust. He is also working on contact metamorphism in the Wallowa Mountains of NE Oregon. Briefly, he also worked as an exploration geologist in New Guinea.

Professor Winter teaches Mineralogy, Igneous and Metamorphic Petrology, Introductory Geology, Environmental Geology, and Geochemistry. Outside the classroom, his interests include travel, mountaineering, hiking, mountain biking, and telemark skiing.



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	Vikash Pulke	9765947474	vikas.pukale@pearson.com	Maharashtra
	Gaurav Gagwani	9898813419	Gaurav.Gagwani@pearson.com	Gujarat
	Dinesh Adyalkar	9970545744	dinesh.adyalkar@pearson.com	Maharashtra
	Priyank Vyas	9867223897	priyank.vyas@pearson.com	Maharashtra
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