

Bioenergetics⁴

David G. Nicholls
and Stuart J. Ferguson

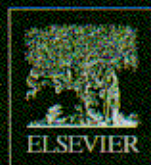
Extensively revised, **Bioenergetics⁴** takes into account the many newly determined protein structures that provide molecular insight into chemiosmotic energy transduction, as well as reviewing the explosive advances in 'mitochondrial physiology'—the role of the mitochondria in the life and death of the cell.

Covering mitochondria, bacteria, and chloroplasts, the fourth edition of **Bioenergetics** provides a clear and comprehensive account of the chemiosmotic theory and its many applications. The figures have been carefully designed to be memorable and to convey the key functional and mechanistic information.

Key Features:

- Organized between three interlocking sections: basic principles, structures and mechanisms, and mitochondrial physiology.
- Covers new advances in the structure and mechanism of key bioenergetic proteins, including complex I of the respiratory chain and transport proteins.
- Details cellular bioenergetics, mitochondrial cell biology and signal transduction, and the roles of mitochondria in physiology, disease, and aging.
- Offers readers clear, visual representation of structural concepts through full-colour figures throughout the book.

Written for students and researchers alike, this publication is the standard on chemiosmotic theory, including focus on electrochemical gradients, and membrane bioenergetics. **Bioenergetics⁴** is essential reading for undergraduates, graduate and postgraduate students working in biochemistry, molecular biology, cell biology, and medical research, and established researchers who require an overview of the latest advances in this dynamic field.



ACADEMIC PRESS

An imprint of Elsevier
store.elsevier.com

ISBN 978-0-12-388425-1



9 780123 884251