

An integrated presentation of the principles and experimental basis of molecular biology

'The best molecular biology textbook available.' Michael R. Lieber, University of Southern California

'The general presentation of material and interleaving of research results and methods are what led me to adopt this remarkable textbook for use in my class.' Richard S. Myers, Ph.D. Director of the Laboratory of Genetic Recombination, Department of Biochemistry and Molecular Biology, University of Miami Miller School of Medicine

'A nice balance between detail and a focus on understanding the overall process – and it is fantastically up to date. I am delighted with it.' Barbara C. Hoopes, Associate Professor of Biology, Colgate University

From today's leading researchers—including Nobel Prize winner Carol Greider—*Molecular Biology: Principles of Genome Function* offers a fresh, distinctive approach to teaching a subject of which our understanding has advanced immeasurably, but about which many intriguing questions remain.

OUTSTANDING FEATURES INCLUDE

- A focus on principles, rather than an attempt to offer exhaustive details, equips students with a robust conceptual framework of the discipline.
- An emphasis on the commonalities that exist between bacteria, archaea, and eukaryotes depicts our current understanding of the conserved nature of molecular biology and the variations that underpin biological diversity.
- Clear demonstrations of the experimental basis of molecular biology, set off in Experimental Approach panels, help students understand the experimental approaches that have helped us elucidate different aspects of the discipline.
- Pedagogical features including instructive, custom-drawn artwork; end of chapter questions and summaries; suggested readings grouped by topic; and extensive cross-references throughout further enhance the text.

NEW TO THIS EDITION

- A new chapter on regulatory RNAs, whose centrality to fully understanding genome function has come to the fore in recent years.
- Individual chapters on the regulation of transcription and translation now immediately follow those covering the core processes themselves.
- An extensive set of end of chapter questions, including Challenge Questions that stretch students further by encouraging critical thinking and data analysis.
- Video animations illustrate some of the central processes, including those that are particularly challenging to visualize.



online resource center

www.oxfordtextbooks.co.uk/orc/craig2e/

For instructors

- Figures from the book, available to download for use in lectures
- Answers to end of chapter questions
- Journal Club—suggested research papers and discussion questions linked to topics featured in the book

For everyone

- Links to newly produced animations that illustrate a range of central processes in molecular biology

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