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BOOK REVIEW

STRUCTURES OF DNA. Cold Spring Harbor Symposia on Quantitative Biology. Volume XLVII. — Cold Spring Harbor Laboratory, New York 1983. 2-book set, 1229 pp. Cloth US $ 140.—; outside US $ 168.—.

An understanding of the molecular mechanisms that govern the expression of genetic information requires a deep knowledge of how DNA is organized. This 2-book set, which records the proceedings of 47 Annual Cold Spring Harbor Symposium contains papers discussing the latest information about the structure of DNA. As stated by J. D. Watson in the foreword, the structure of the double helix appears not to be so clear as it seemed when first found in 1953. New forms of DNA were discovered- DNA can be overcoiled or undercoiled, it can turn to the right as well as to the left. The introductory section of book A presents papers on the handedness of DNA, describing in detail the A, B and Z conformation of DNA and the antibody recognition and possible biological significance of Z-DNA. Further sections comprise contributions dealing with the methods of conformational analysis of normal and chemically modified DNA and with chemical synthesis of DNA fragments. The DNA-protein interactions and the structure of nucleosomes are covered in the concluding part of book A. Book B includes papers on DNA metylation, DNA. replication, recombining and mutating DNA, further on transcription of DNA and its regulation, the organization of genes along DNA, repetitive DNA and pseudogenes and on origins of replication, centromeres and telomeres. The concluding review by A. Klug summarizes our up-to-date knowledge on DNA structure, stressing that DNA is a molecule in dynamic equilibrium in which a number of stable conformations exists, all under a strict enzymatic control. Further progress in establishing the various forms of DNA is essential for understanding the functioning of the genetic material.

This 2-book set will be an essential reading for research workers in the field of DNA structure and function.

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