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Advances in Cancer Control: Screening and Prevention Research. Progress in Clinical and Biological Research, Vol. 339. Edited by P. F. ENGSTROM, B. RIMER and L. E. MORTENSON. Published 1990 by Wiley Liss, New York. No. of pages: 495. ISBN: 0-471-56785-X. Price: \$129.50.

This volume contains the *Proceedings of the Seventh Annual "Advances in Cancer Control" Meeting* held in Bethesda, MD on 22 March 1989. In addition to scientific sessions on smoking cessation research, chemoprevention and diet research, and breast cancer screening research, there was a plenary session that addressed adherence to primary and secondary prevention studies. The papers in the sections "Cancer Research in the Community" and "Oncology Practices in the Community" were presented at the scientific session of the *Fifteenth Annual Meeting of the Association of Community Cancer Center*, which met on 29 March–1 April 1989 in Washington, D.C.

The quality of the manuscripts in this volume is a testimony to the fact that the field of cancer prevention and control has matured. Most of the manuscripts describe results of cancer prevention and control interventions in the community setting. Some of the papers address issues of basic biochemistry and molecular oncology as they relate to possible cancer prevention and control interventions. Community hospitals have developed clinical research programs that include nurses, social workers, and oncologists, and their important contributions to the field are also included in this volume.

The main topics covered are as follows:

- Smoking cessation research;
- Chemoprevention and diet research;
- Breast cancer screening research;
- Bowel cancer screening research;
- Cancer research in the community;
- Oncology practices in the community.

This book would be of interest to people working in oncology, molecular biology, physiology, biochemistry, as well as for advanced students.

Methods in Neurotransmitter Receptor Analysis. Edited by H. I. YAMAMURA, S. J. ENNA and M. J. KUJAR. Published 1990 by Raven Press, New York. No. of pages: 279. ISBN: 0-88167-609-8. Price: \$66.00.

The development of new analytical tools and methodologies is the driving force for advances in science. An excellent illustration of this principle has been the emergence of neurobiology as a scientific discipline. Prior to the 1950s, the tools available for studying brain architecture, chemistry, and function could provide little more than generalized descriptions of this complex organ. This situation has changed dramatically during the past 30 years with improvements in analytical instrumentation, developments in radiochemistry and molecular biology, and refinements in *in vitro* methodologies. These advances made it possible to seek answers to questions that had not even been formulated in earlier times. With these tools, theories concerning the existence of neurotransmitters and neurotransmitter receptors were confirmed. Concepts relating to the manner in which neurotransmitters are synthesized, stored, released, conserved, and distributed, as well as those pertaining to the ionic and molecular events associated with synaptic transmission, have surfaced in a relatively short period of time because of the development of new analytical devices and methods.

The following chapters are included in this book:

- Methods for receptor binding;
- Computer-assisted analysis of binding data;
- Measurement of [³H]inositol phospholipid turnover;
- Analysis of neurotransmitter receptor-coupled cyclic nucleotide systems, cyclic adenosine 3',5'-monophosphate and adenylate cyclase;
- Receptor solubilization, characterization, and isolation;
- Methods for studying receptors with cultured cells of nervous tissue origin;
- Receptor autoradiography;
- Messenger RNA localization with the microscope: *in situ*;
- Receptor binding as a method for drug discovery.

This book would be useful for neuroendocrinologists, neurobiologists, and people working in the fields of endocrinology, molecular biology, and biophysics.

Statistical Evaluation of Mutagenicity Test Data, UKEMS Sub-Committee on Guidelines for Mutagenicity Testing. Report—Part III. Edited by D. J. KIRKLAND. Published 1989 by the University Press, Cambridge. No. of pages: 320. ISBN: 0-521-36605-4.

In March 1982 the United Kingdom Environmental Mutagen Society appointed a Sub-Committee to determine the minimal professional criteria that should be applied to mutagenicity testing in order to meet the requirements of UK authorities. The tests recommended in the "Guidelines for Testing of Chemicals for Mutagenicity" which was published by the Department of Health and Social Security (DHSS, 1981) formed the initial basis of the first volume which dealt with the most commonly used mutagenicity tests (UKEMS, 1983). A second volume (UKEMS, 1984), which also had to take account of other published guidelines, addressed a series of supplementary tests.

Very few of the chapters in these first two volumes adequately tackled the statistical aspects, either in terms of experimental design, or in terms of data analysis. As many guidelines were employing phrases like "Data should be analysed using appropriate statistical methods" the UKEMS Sub-Committee decided that Part III of their reports should address the statistical evaluation of mutagenicity test data. This report therefore attempts to do that and, where appropriate, to highlight the statistical implications of experimental design. The topics covered include bacterial and mammalian cell colony and fluctuation assays, *in vitro* and *in vivo* chromosomal aberration tests, sister chromatid exchange tests, *Drosophila* and dominant lethal assays.

The book is divided into the following main sections:

- Statistics and genetic toxicology—setting the scene;
- Analysis of data from microbial colony assays;
- Mammalian cell gene mutation assays based upon colony formation;
- Statistical evaluation of bacterial/mammalian fluctuation tests;
- Analysis of data from *in vitro* cytogenetic assays;
- Statistical methods for sister chromatid exchange experiments;
- Statistical analysis of *in vivo* cytogenetic assays;
- Statistical methods for the dominant lethal assay;
- Statistical methods for the design and analysis of mutation experiments with the fruit fly *Drosophila melanogaster*.

This book would be of interest to statisticians, biophysicians, biochemists, and people working in molecular biology, as well as for advanced students.