Preface

The fission yeast, *Schizosaccharomyces pombe*, although known to science for less than a century (Lindner, 1893) and actively studied for only about forty years, has become one of the best characterized organisms. Since the early studies of Leupold, Mitchison, and Robinow, *S. pombe* has been considered the best defined yeast after *Saccharomyces cerevisiae*. In some areas, it has been the paradigm. A not-so-subtle implication is that the fission yeast has been "... some special object particularly suited for the study of each of the more important problems" (A. Krogh, Nobel Laureate, 1920). This volume attempts to show how the fission yeast has been that "special object" in a variety of important areas of modern research.

The diversity of experimental approaches and the ease with which the novel techniques of gene manipulation and cloning have been applied to *S. pombe* have obviously generated an ever-increasing interest in using the fission yeast as a biological system. Some recent experiments, whereby a human homolog of a cell cycle mutant of *S. pombe* has been found, have led to new ways of examining the functional similarities between simple unicellular eukaryotes and the highly differentiated complex systems.

This volume is the first attempt to assemble the lore of the fission yeast. It recognizes that a large body of literature has been accumulated and attempts to provide an overview of most of it, although inevitably some areas will be judged to have been treated too lightly.

The dominant themes for many years emphasized cell biology and genetics. Currently, a much broader interest in the molecular biology of *S. pombe* is developing. Findings regarding the conservation of some cell cycle genes, attributes of the RNA processing system, and the structure of the centromeres and chromosomes stimulate broad interest.

Among others, this book is addressed to the many new investigators and laboratories adopting this system. We hope it leads to the development of new molecular tools for investigating problems in *S. pombe* as well as to the definition of areas of metabolism and biology beyond the major themes of the past.

We are extremely thankful to all those who have contributed to this volume. It has been a great joy and feeling of personal satisfaction to have worked with all these colleagues. Along with all the other efforts being undertaken to focus on *S. pombe* as one of the organisms particularly suitable for genetics and cell biology, we hope this volume will help to focus on *S. pombe* as one of the organisms particularly suitable for modern research.

Several aspects of the molecular or cellular biology of the fission yeast cell have been reviewed recently, thus these aspects are not included, or, at least, are not emphasized in this volume. The references to those reviews are as follows:

Calleja, G. B. (1987). Cell aggregation. *In* "The Yeasts" (A. H. Rose and J. S. Harrison, editors), Volume 2 (2nd edition). Academic Press, London.

Phipps, J., Nasim, A., and Miller, D. R. (1985). Recovery, repair, and mutagenesis in *Schizosaccharomyces pombe*. *Advances in Genetics* **23,** 1–73.

Robinow, C. F., and Johnson, B. F. (1989). Yeast cytology. *In* "The Yeasts" (A. H. Rose and J. S. Harrison, editors), Volume 3 (2nd edition). Academic Press, London.

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