

Principles and Techniques of Scanning Electron Microscopy

Biological Applications
Volume 6

Edited by

M.A. Hayat

Department of Biology
Kean College of New Jersey
Union, New Jersey



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PREFACE

This is the sixth volume of a multi-volume treatise on the Principles and Techniques employed for studying biological specimens with the aid of a scanning electron microscope. Since its inception in 1974, the treatise has successfully reflected the growth of scanning electron microscopy in instrumentation as well as in methodology. There was a pressing need to keep the readers abreast of the remarkable expansion of the field in recent years and the ever growing importance of its contributions to the understanding of many problems in the biological and medical sciences. This treatise serves as an international authoritative source, and is designed to cover important new developments systematically. The treatise departs from the tradition that books on methodology present only the contemporary consensus of knowledge. It is written by scholars, and when they have anticipated the potential usefulness of a new method, they have so stated. The authors have not hesitated to include ideas in progress. The treatise should serve as a guide and survey, which can save a newcomer the tedious search for information scattered in biological journals.

This volume has developed over the years through the joint effort of 25 distinguished author-scientists. As a result, a most comprehensive compilation of methods developed and used by a large number of competent scientists has been achieved. The book contains new viewpoints with particular regard to current problems. Areas of disagreement and potential research problems have been pointed out. It is hoped that the readers will become aware that correct interpretation of the information retrieved from electron micrographs is dependent upon an understanding of the principles underlying the methodology and instrumentation.

The basic approach in this volume is similar to that in the previous five volumes in that the methods presented have been tested for their reliability, and are the best of those currently available. The instructions for the preparation and use of various solutions, media, stains, apparatus are straightforward and complete, and should enable the worker to prepare his specimens without outside help. It is suggested that prior to undertaking the processing, the entire procedure should be read and necessary solutions and other media prepared. Each chapter is provided with an exhaustive list of references with complete titles. Full author and subject indexes are included at the end of the book.

It is encouraging to know that the previous five volumes have been received

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favorably. It is my impression that this volume will also fulfill its purpose: to provide an understanding of the usefulness, limitations, and potential applications of special methods employed for studying the surface structure, composition, size, number, and location of cellular components, and to provide details of current improvements in the instrumentation.

M. A. HAYAT

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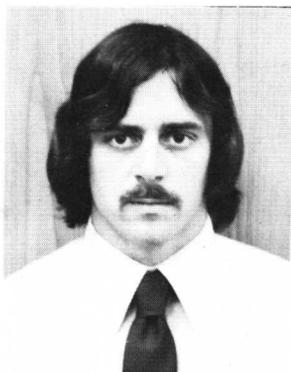
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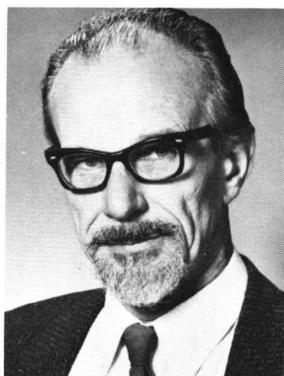
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Contributors to This Volume



Peter M. Andrews



William S. Bertaud



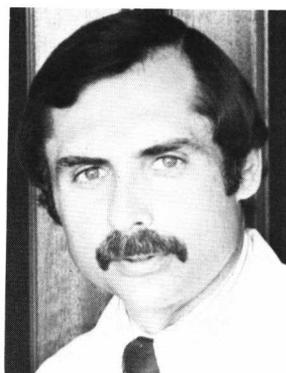
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David P. Carter



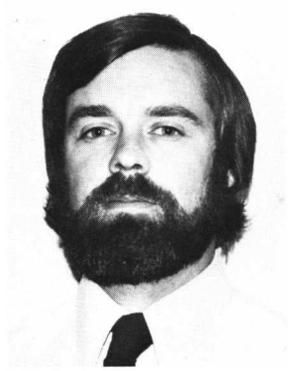
Eric J. Chatfield



John R. Ebert



B. Frisch



B. J. Gannon



Jack A. Horner



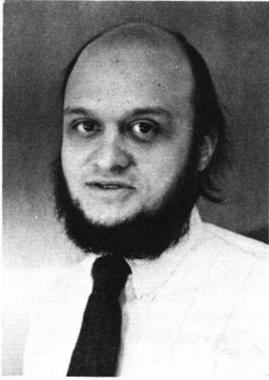
Walter J. Humphreys



Janet S. Johnson



Marguerite M. B. Kay



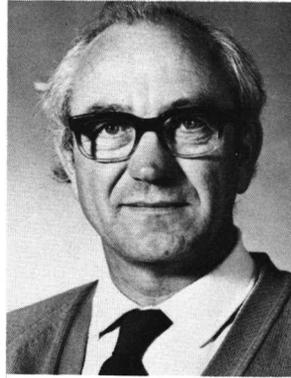
Robert H. Kirschner



Isamu Kondo



S. M. Lewis



Brian A. Meylan



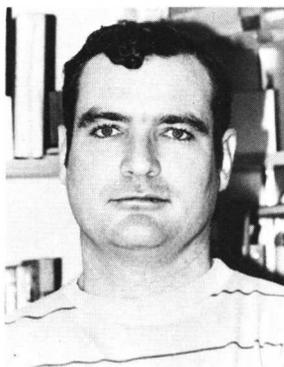
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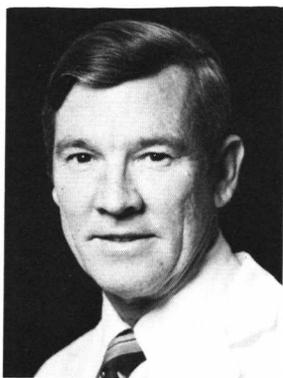
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David E. Scott



Ben O. Spurlock

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