

INTRODUCTION TO AEROSOL SCIENCE

by P. C. Reist, Macmillan Publishing Co.,
New York, ISBN 0-02-949600-4, 1983

Reviewed by
Alex E. S. Green
University of Florida

This book is an introduction to aerosol science and is intended for practitioners in air pollution, public health, and industrial hygiene. It is timely in that aerosol science, which was at the forefront of 19th century science, has fallen somewhat into the gap between physics and physical chemistry. However, because of its importance to health and to environmental sciences it is beginning to receive the attention it deserves.

This book is an attempt to present introductory information on aerosol properties and behavior in a rigorous but illustrative manner. The text evolved from long experience of the author in teaching an introductory course on aerosol science at the first year graduate level. The numerous and helpful illustrative problems reflect this valuable experience.

The breadth of the book is very impressive and the author attempts to introduce every topic in a simple fashion, yet in forms immediately useful. The major topical headings after an introductory chapter are: 2. Particle Size Distributions; 3. Fluid Properties; 4. Macroscopic Fluid Properties; 5. Viscous Motion; 6. Particle Kinetics: setting, acceleration, deceleration; 7. Particle Kinetics Impaction, Respirable Sampling, Isokinetic Sampling; 8. Brownian Motion; 9. Particle Diffusion; 10. Aerosol Charging Mechanisms; 11. Electrostatic Controlled Aerosol Kinetics; 12. Condensation and Evaporation Phenomena; 13. Evaporation and Growth; 14. Optical Properties: extinction; 15. Optical Properties: angular scattering; 16. Coagulation of Particles. The author pays meticulous attention to his reader and each chapter starts with an introduction, definitions or historical review and ends with a problem set. There are also seven appendices containing useful information.

The reference list is not very extensive and appears to be only updated to 1979. A guide to the current aerosol literature also appears lacking.

POSITIONS AVAILABLE

use CEE,s reasonable rates to advertise. Minimum rate
1/8 page \$60; each additional column inch \$25.

MICHIGAN STATE UNIVERSITY

CHEMICAL ENGINEERING/MICHIGAN BIOTECHNICAL INSTITUTE Assistant/Associate/ Full Professor (full year, full time, tenure system). Biochemical engineering positions and Distinguished Research Professorship. The Chemical Engineering Department and the Michigan Biotechnology Institute have joint tenure system positions open. Rank, salary and incentives commensurate with qualifications. Applicants should have demonstrated ability in one or more of the following areas. Bioreactor Design and Scale-up; Product Separation and Recovery from Cell Culture Broths; Sensors, Controls and Computer Interfacing of Biological Processes; and Renewable Resource Technology. Strong commitment to applied research plus teaching limited to graduate training in biotechnology expected. Applicants with outstanding credentials and an active research program are encouraged to apply. The positions offer the excitement of sharing in both the understanding and rewards of developing new technology. Qualified women and minorities are encouraged to apply. Apply in writing to: Donald K. Anderson, Chairperson, Biotechnology Search and Selection Committee, Michigan State University, 173 Engineering Building, East Lansing, MI 48824-1226. Applications are requested by September 1, 1985, but will be accepted as long as necessary to fill the positions.

Despite this relatively minor weakness the reviewer highly recommends the book as a comprehensive and well organized introduction to aerosol science. This reviewer was particularly impressed with the author's efforts to achieve clarity, as evidenced by numerous solved practical problems and graphical and tabular illustrations. □

**THEORY OF MOLECULAR FLUIDS,
VOLUME 1: FUNDAMENTALS**

By C. G. Gray and K. E. Gubbins
Clarendon Press, Oxford, \$79.00 (1985)

Reviewed by
Keith P. Johnston
University of Texas

John Prausnitz said that for today's generation statistical mechanics is an esoteric luxury, but for tomorrow's generation it will become a vital necessity. It was stated a number of years ago, so that the new generation has already ar-

Continued on page 211.