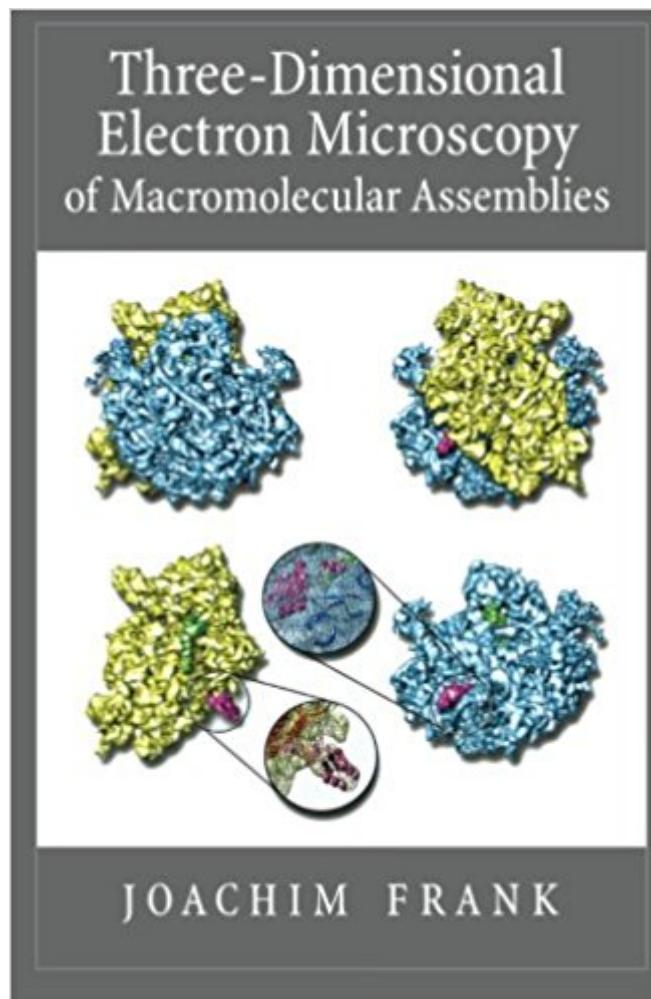


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# Three-Dimensional Electron Microscopy Of Macromolecular Assemblies: Visualization Of Biological Molecules In Their Native State





## Synopsis

Cryoelectron microscopy of biological molecules is among the hottest growth areas in biophysics and structural biology at present, and Frank is arguably the most distinguished practitioner of this art. CryoEM is likely over the next few years to take over much of the structural approaches currently requiring X-ray crystallography, because one can now get good and finely detailed images of single molecules down to as little as 200,000 MW, covering a substantial share of the molecules of greatest biomedical research interest. This book, the successor to an earlier work published in 1996 with Academic Press, is a natural companion work to our forthcoming book on electron crystallography by Robert Glaeser, with contributions by six others, including Frank. A growing number of workers will employ CryoEM for structural studies in their own research, and a large proportion of biomedical researchers will have a growing interest in understanding what the capabilities and limits of this approach are.

## Book Information

Paperback: 432 pages

Publisher: Oxford University Press; 2 edition (February 2, 2006)

Language: English

ISBN-10: 0195182189

ISBN-13: 978-0195182187

Product Dimensions: 9.1 x 0.9 x 6 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars 1 customer review

Best Sellers Rank: #1,821,570 in Books (See Top 100 in Books) #48 in Books > Science & Math > Experiments, Instruments & Measurement > Electron Microscopes & Microscopy #130 in Books > Science & Math > Experiments, Instruments & Measurement > Microscopes & Microscopy #711 in Books > Medical Books > Basic Sciences > Cell Biology

## Customer Reviews

"Three-Dimensional Electron Microscopy of Macromolecular Assemblies is the first systematic introduction to single-particle methods of reconstruction... The book gives an excellent review on all methodological developments in the field.. It will be an indispensable resource for newcomers to the field and for all using or adopting these methods."--OPTIK --This text refers to an out of print or unavailable edition of this title.

Joachim Frank is an Investigator at the Howard Hughes Medical Institute. He is also Professor of Biomedical Sciences and Adjunct Professor of Biology at the State University of New York at Albany, Adjunct Professor of Biochemistry and Molecular Biophysics at Columbia University, Research Professor of Cell Biology at New York State University Medical School, and head of the Laboratory of Computational Biology and Macromolecular Imaging at Health Research, Inc., the Wadsworth Center.

This concise and easy to read book is essentially a crash course in single particle reconstruction by electron microscopy. It isn't exactly a how-to manual, more an overview of how the whole process works. Thus, it is useful not only to someone who wants to learn how to do this, but also to those who might be interested in deciding if this technique would be useful to them. And actually, the whole topic is sufficiently cool that I would recommend the book even to people who know they will never use this technique, just because it's fun to read about it. The book is clearly written and doesn't assume a lot of prior knowledge. A basic undergrad education in math would be enough to handle the equations.

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