3-D reconstruction

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Jensen, Grant J.

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Monografía

This volume is dedicated to a description of the instruments, samples, protocols, and analyses that belong to cryo-EM. It emphasizes the relatedness of the ideas, instrumentation, and methods underlying all cryo-EM approaches, which allow practitioners to easily move between them. Within each section, the articles are ordered according to the most common symmetry of the sample to which their methods are applied. * Includes time-tested core methods and new innovations applicable to any researcher * Methods included are useful to both established researchers and newcomers to th

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Assessment in Electron Tomography; 7. Resolution Assessment in Practice; Acknowledgments; References; Chapter 4: 3D Reconstruction from 2D Crystal Image and Diffraction Data; 1. Introduction to Electron Crystallography Data Processing; 2. Algorithms for Electron Crystallography; 3. Image Processing with 2dx; 4. Electron Diffraction Processing with XDP; 5. Electron Diffraction Processing in IPLT 6. ConclusionsAcknowledgments; References; Chapter 5: Fourier-Bessel Reconstruction of Helical Assemblies; 1. Introduction; 2. Basic Principles; 3. Step-by-step Procedure for Helical Reconstruction; 4. Case Study of Helical Reconstruction of Ca-ATPase; 5. Conclusions; Acknowledgments; Appendix A Mathematical Foundations of Fourier-Based Helical Reconstruction; References; Chapter 6: Reconstruction of Helical Filaments and Tubes; 1. The Iterative Helical Real Space Reconstruction Approach; 2. Using IHRSR; 3. Intrinsic Ambiguities in Helical Symmetry; 4. Conclusion; Acknowledgments; References Chapter 7: Three-Dimensional Asymmetric Reconstruction of Tailed Bacteriophage1. Introduction: 3D Asymmetric Reconstruction of Tailed Bacteriophage; 2. Particle Boxing; 3. Generating a Starting Model of the Complete phi29 Phage; 4. Asymmetric Reconstruction of the Entire phi29 Phage; 5. Analysis and Interpretation of phi29 Reconstruction; 6. Summary and Future Prospects; Acknowledgments; References; Chapter 8: Single Particle Analysis at High Resolution; 1. Introduction; 2. Specimen Requirements; 3. Data Collection Requirements; 4. Introduction to EMAN; 5. Particle Selection/Boxing 6. CTF and Envelope Correction

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Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es