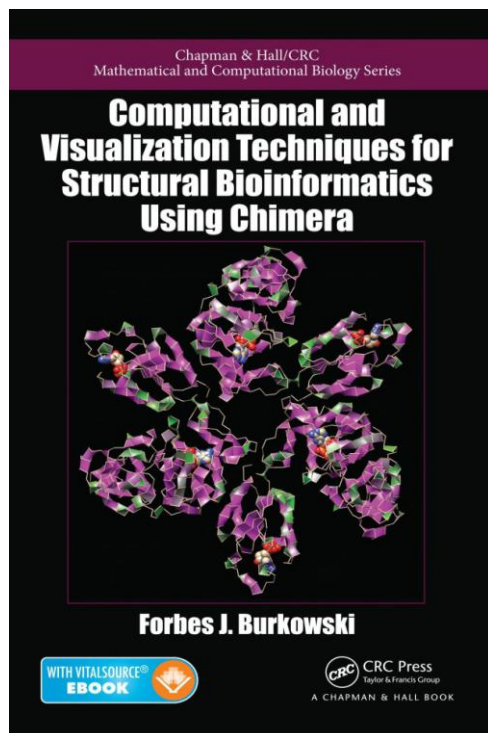


FORBES J. BURKOWSKI COMPUTATIONAL AND VISUALIZATION TECHNIQUES FOR STRUCTURAL BIOINFORMATICS USING CHIMERA



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This book addresses the areas of biochemistry, mathematics, and computer science with emphasis on computational techniques. It is focused mainly on protein structure with many exercises grounded in biological problems at molecular level. It encourages the use of mathematical analysis by providing a firm foundation for subsequent computations. The discussed techniques are implemented with Python scripts. Some initial knowledge in Python is assumed on behalf of the reader.

The book takes a *learning-by-doing* approach which gradually builds confidence and skill in solving challenging structural biology problems. The use of mathematical algorithms and their purpose is clearly explained and their ability to be used in visualization of data is emphasized. The scripts may be used as a starting or reference point in developing applications related to biological problems. The visual feedback capabilities also facilitate identifying and handling bugs.

The text is mainly aimed at people who would like to write Python scripts to enhance the capabilities of Chimera. It is also appropriate for university students with some background in bioinformatics who would like to delve deeper in structural biology problems.

Table of Contents

Preface	xvii
Chapter 1. Introduction: Macromolecules and Chimera.....	1
Chapter 2. Accessing and Displaying Molecular Data with Chimera	39
Chapter 3. Algorithms Dealing with Distance.....	87
Chapter 4. Algorithms Dealing with Angles	135
Chapter 5. Structure Overlap and Alignment	181



Chapter 6. Potential Energy Functions	245
Chapter 7. Rotamers and Side-chain Conformation	263
Chapter 8. Residue Networks	281
Appendix A: Simple Dialogs	297
Appendix B: Scenographics	317
Appendix C: The Graph Class	345
Appendix D: 2D and 3D Plots	365
Appendix E: Dynamic Programming.....	395
Index	409