

## Preface

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Why do I need a new flu shot each year? Should I be frightened by all the news about bacterial drug resistance? What about that new diet I just read about on the web? *Biomolecular science is increasingly important in our everyday life, helping us answer questions like these, and giving us the knowledge to make critical choices about our diet, our health, and our wellness. How do fireflies light up? Why do plant and animal populations evolve over many generations? Biomolecular science also allows us to be curious, to look deeper into the natural world, and to be inspired by the complex inner workings of life.*

In this book, I will take an evidence-based approach to current knowledge about the structure of biomolecules and their place in our lives, inviting us to explore how we know what we know and how current gaps in knowledge may influence our individual approach to the information. The book is separated into a series of short essays that present some of the foundational concepts of biomolecular science, with many examples of the molecules that perform the basic functions of life.

This book builds on my work with the RCSB Protein Data Bank, where I write a column each month that highlights atomic structures from the PDB archive.

*It has been a tremendous gift to have the opportunity to work on the Molecule of the Month, and I gratefully acknowledge Helen Berman, Stephen Burley, Christine Zardecki, and the entire RCSB team for their enthusiastic support over the past 15 years.*

The molecular stories in this book are supported by a monumental body of work by scientists around the world. Throughout the book, I have included accession codes for structures at the PDB and EMDataBank. You can explore the structures directly at their websites ([www.pdb.org](http://www.pdb.org) and [www.emdatabank.org](http://www.emdatabank.org)). The database entries for each of these structures also include the primary journal publications that describe the detailed science supporting each structure.

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