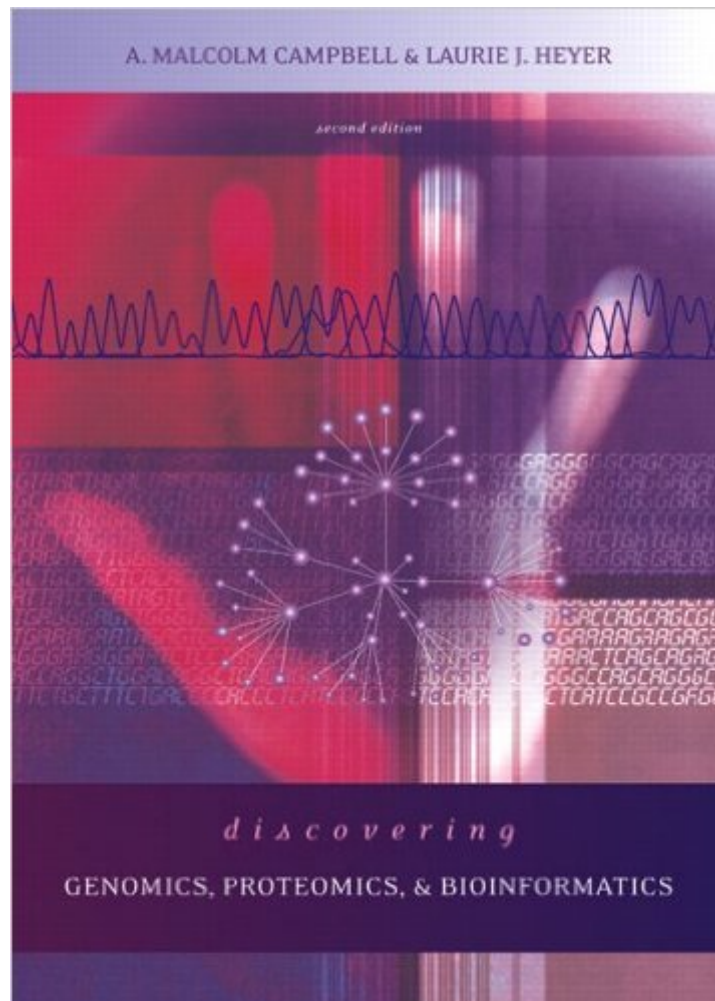# Discovering Genomics, Proteomics And Bioinformatics (2nd Edition)

Synopsis

KEY BENEFIT: Discovering Genomics is the first genomics text that combines web activities and case studies with a problem-solving approach to teach upper-level undergraduates and first-year graduate students the fundamentals of genomic analysis. More of a workbook than a traditional text, Discovering Genomics, Second Edition allows students to work with real genomic data in solving problems and provides the user with an active learning experience. KEY TOPICS: Genomic Medicine Case Study: Whatâ ™s wrong with my child? Genome Sequence Acquisition and Analysis, Comparative Genomics in Evolution and Medicine, Genome Variations, Genomic Medicine Case Study: Why Canâ ™t I Just Take a Pill to Lose Weight? Basic Research with DNA Microarrays, Applied Research with DNA Microarrays, Proteomics, Genomic Medicine Case Study: Why Canâ ™t We Cure More Diseases? Genomic Circuits in Single Genes, Integrated Genomic Circuits, Modeling Whole-Genome Circuits. MARKET: For all readers interested in genomics.

Book Information

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Average Customer Review: 4.2 out of 5 starsÂ Â See all reviewsÂ (9 customer reviews)

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Customer Reviews

The sheer number of books in the area of bioinformatics is growing rapidly, and each author takes a different approach to the topic: Bergeron's Bioinformatics Computing uses concepts from Information Theory, while Pervzner's Computational Molecular Biology uses Graph Theory and Durbin et. al. Biological Sequence Analysis use Statistics and hard core mathematical analysis to get the point across. Campbell and Heyer, the authors of Discovering Genomics, Proteomics, & Bioinformatics use concepts from Electrical Engineering and Control Engineering to prescribe some

of the details of genomics and proteomics. As an instructor you need to choose the right book to meet the needs and understanding level of your target audience. For biology students that have little mathematics or statistics knowledge but have taken Physics II (E&M), this would be the perfect book. The authors are a little heaving on the biological terminologies, so a sophomore level Computer Science major with little or no biology background would have a difficult time coming up to speed at the beginning, but the glossary of terms at the end of the book is comprehensive enough that can aid the learning process.The approach to figuring out what, where and how genes are controlled using what are called circuits is simply fascinating. Genes are controlled in three ways: location of the gene, the time of control and the amount. These three metrics can easily be mapped to circuit diagram in Electrical Engineering using the concept of switches (transistors) and time varying influencers (control theory and feedback loops), the authors describe of genes are regulated. One can imagine that the process of mapping genes into circuits is a difficult task, and one would be right.

Abstract: great and innovative book. I have seen many books, but none like this. It is still concise in this first edition, yet could become the "Lewin" of genomics.Score: 9/10.Recommended to students: yes, together with classic works like Brown.Recommended to Central Library: yes.1. The supplied CD-ROM is a nice teaching aid. Yet, it is difficult to "extract" pictures from it for teaching purposes. It would be much more useful if the pictures were individually supplied in standard high-quality graphic formats like TIFF, instead of PDF. The later is perfect for distributing text with pictures, but not to retrieve such pictures. Other publishers distribute the book artwork as individual TIFF files. That approach greatly enhances the book and boost sales. This is particularly useful for teachers. Actually, it is a must for us these days. Please, make sure that future versions of the CD-ROM or DVD-ROM are --as this one-- compatible with the open-source Unix-based Mac OS X platform. Thanks.2. The associated web page "Instructor's Guide"

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