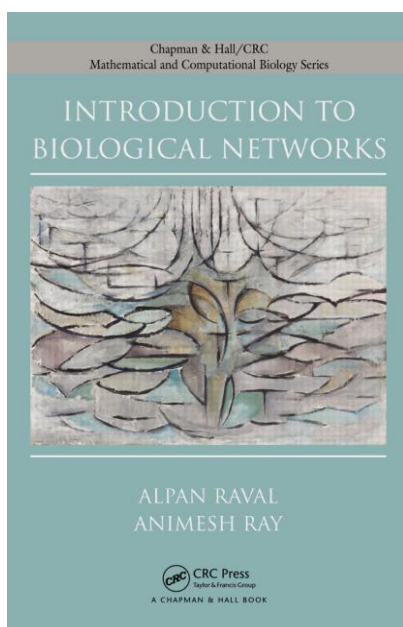


ALPAN RAVAL, ANIMESH RAY INTRODUCTION TO BIOLOGICAL NETWORKS



CRC Press
ISBN 978-1-58488-463-7
Hard cover
335 pages
April 2013

A much needed introductory book in the field of genomics-inspired network biology, *Introduction to Biological Networks*, provides a thorough overview for physical scientists and biologists involved in interdisciplinary research.

The authors describe the experimental methods used to discover and test networks of interaction among biological molecules. They also present computational methods for predicting the interaction networks, highlighting the general mechanisms of network formation and evolution, and explore the application of network approaches to important problems in biology and medicine.

The mathematical and statistical techniques involved are also discussed separately. With many examples throughout and clear explanations of key concepts the book covers areas from the very basics to the current state-of-the-art research in biology and medicine.

Table of Contents

Preface	xi
Chapter 1 The Living Interactome	1
Chapter 2 Experimental Inference of Interactions	33
Chapter 3 Prediction of Physical Interactions	65
Chapter 4 Metabolic Networks and Genetic Interactions	107
Chapter 5 Testing Inferred Networks	139
Chapter 6 Small Model Networks	171
Chapter 7 Tractable Models of Large Networks.....	193



Chapter 8 Network Modularity and Robustness	237
Chapter 9 Networks and Disease	265
References	295
Index	313