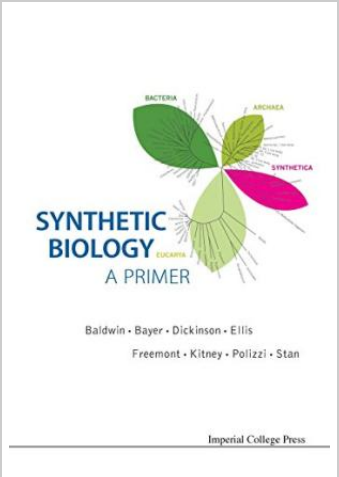

Synthetic Biology - A Primer (Paperback)

By -

Imperial College Press, United Kingdom, 2012. Paperback. Condition: New. Language: English. Brand new Book. Synthetic Biology - A Primer gives a broad overview of the emerging field of synthetic biology and the foundational concepts on which it is built. It will be of interest to final year undergraduates, postgraduates and established researchers who are interested in learning about this exciting new field. The book introduces readers to fundamental concepts in molecular biology and engineering and then explores the two major themes for synthetic biology, namely `bottom-up' and `top-down' engineering approaches. `Top-down' engineering utilises a conceptual framework of engineering and systematic design to build new biological systems by integrating robustly characterised biological parts into an existing system through the use of extensive mathematical modelling. The `bottom-up' approach involves the design and building of synthetic protocells using basic chemical and biochemical building blocks from scratch. Exemplars of cutting-edge applications designed using synthetic biology principles are presented, including the production of novel biofuels from renewable feedstocks, microbial synthesis of pharmaceuticals and fine chemicals, and the design and implementation of biosensors to detect infections and environmental waste. The book also uses the Internationally Genetically Engineered Machine (iGEM) competition to illustrate the power of synthetic...

Reviews

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