

1. Record Nr.	UNINA9910149597603321
Titolo	Translational Biomedical Informatics : A Precision Medicine Perspective // edited by Bairong Shen, Haixu Tang, Xiaoqian Jiang
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2016
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (VI, 332 p. 93 illus., 44 illus. in color.)
Collana	Advances in Experimental Medicine and Biology, , 0065-2598 ; ; 939
Disciplina	570.285
Soggetti	Bioinformatics Molecular biology Molecular Medicine Computational Biology/Bioinformatics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	NGS for sequence variants (HVP) -- RNA Bioinformatics for Precision Medicine -- Exploring Human Diseases and Biological Mechanisms by Protein Structure Prediction and Modeling -- Computational methods in mass spectrometry based proteomics -- Informatics for Metabolomics -- Metagenomics and Single-cell Omics Data Analysis for Human Microbiome Research -- Text Mining for Precision Medicine: Bringing structure to EHRs and biomedical literature to understand genes and health -- Medical Imaging Informatics -- LIMS and clinical data management -- Biobanks and their clinical application and informatics challenges -- Methods to Improve Distributed Analysis in Biomedical Informatics -- XML, ontologies, and their clinical applications -- Bayesian Computation Methods for Inferring Regulatory Network Models Using Biomedical Data -- Network-based Biomedical Data Analysis.
Sommario/riassunto	This book introduces readers to essential methods and applications in translational biomedical informatics, which include biomedical big data, cloud computing and algorithms for understanding omics data, imaging data, electronic health records and public health data. The storage, retrieval, mining and knowledge discovery of biomedical big data will be among the key challenges for future translational research.

The paradigm for precision medicine and healthcare needs to integratively analyze not only the data at the same level – e.g. different omics data at the molecular level – but also data from different levels – the molecular, cellular, tissue, clinical and public health level. This book discusses the following major aspects: the structure of cross-level data; clinical patient information and its shareability; and standardization and privacy. It offers a valuable guide for all biologists, biomedical informaticians and clinicians with an interest in Precision Medicine Informatics.
