••	Record Nr.	UNINA9910784592903321
	Titolo	Outcome prediction in cancer [[electronic resource] /] / editors, Azzam F.G. Taktak and Anthony C. Fisher
	Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier, 2007
	ISBN	1-280-74728-5
		9786610747283
		0-08-046803-9
	Edizione	[1st ed.]
	Descrizione fisica	1 online resource (483 p.)
	Altri autori (Persone)	TaktakAzzam F. G FisherAnthony C., Dr.
	Disciplina	362.196994 616.994
	Soggetti	Cancer - Diagnosis
		Cancer - Prognosis
		Neural networks (Computer science)
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Formato Livello bibliografico	Materiale a stampa Monografia
	Formato Livello bibliografico Note generali	Materiale a stampa Monografia Description based upon print version of record.
	Formato Livello bibliografico Note generali Nota di bibliografia	Materiale a stampa Monografia Description based upon print version of record. Includes bibliographical references and index.

	Developments in Relative Survival Analysis; 1. INTRODUCTION; 2. CAUSE-SPECIFIC SURVIVAL; 3. INDEPENDENCE ASSUMPTION; 4. EXPECTED SURVIVAL; 5. RELATIVE SURVIVAL; 6. POINT OF CURE; 7. REGRESSION ANALYSIS; 8. PERIOD ANALYSIS 9. AGE STANDARDIZATION10. PARAMETRIC METHODS; 11. MULTIPLE TUMOURS; 12. CONCLUSION; REFERENCES; Section 2: Biological and Genetic Factors; Chapter 4: Environmental and Genetic Risk Factors of Lung Cancer; 1. INTRODUCTION; 2. LUNG CANCER INCIDENCE AND MORTALITY; 3. CONCLUSION; REFERENCES; Chapter 5: Chaos, Cancer, the Cellular Operating System and the Prediction of Survival in Head and Neck Cancer; 1. INTRODUCTION; 2. CANCER AND ITS CAUSATION; 3. FUNDAMENTAL CELL BIOLOGY AND ONCOLOGY; 4. A NEW DIRECTION FOR FUNDAMENTAL CELL BIOLOGY AND ONCOLOGY 5. COMPLEX SYSTEMS ANALYSIS AS APPLIED TO BIOLOGICAL SYSTEMS AND SURVIVAL ANALYSIS6. METHODS OF ANALYSING FAILURE IN BIOLOGICAL SYSTEMS; 7. A COMPARISON OF A NEURAL NETWORK WITH COX'S REGRESSION IN PREDICTING SURVIVAL IN OVER 800 PATIENTS; 8. THE NEURAL NETWORK AND FUNDAMENTAL BIOLOGY AND ONCOLOGY; 9. THE DIRECTION OF FUTURE WORK; 10. SUMMARY; REFERENCES; Section 3: Mathematical Background of Prognostic Models; Chapter 6: Flexible Hazard Modelling for Outcome Prediction in Cancer: Perspectives for the Use of Bioinformatics Knowledge; 1. INTRODUCTION; 2. FAILURE TIME DATA 3. PARTITION AND GROUPING OF FAILURE TIMES4. COMPETING RISKS; 5. GLMS AND FFANNS; 6. APPLICATIONS TO CANCER DATA; 7. CONCLUSIONS; REFERENCES; Chapter 7: Information Geometry for Survival Analysis and Feature Selection by Neural Networks; 1. INTRODUCTION; 2. SURVIVAL FUNCTIONS; 3. STANDARD MODELS FOR SURVIVAL ANALYSIS; 4. THE NEURAL NETWORK MODEL; 5. LEARNING IN THE CPENN MODEL; 6. THE BAYESIAN APPROACH TO MODELLING; 7. VARIABLE SELECTION; 8. THE LAYERED PROJECTION ALGORITHM; 9. A
	SEARCH STRATEGY; 10. EXPERIMENTS; 11. CONCLUSION; REFERENCES Chapter 8: Artificial Neural Networks Used in the Survival Analysis of Breast Cancer Patients: A Node-Negative Study
Sommario/riassunto	This book is organized into 4 sections, each looking at the question of outcome prediction in cancer from a different angle. The first section describes the clinical problem and some of the predicaments that clinicians face in dealing with cancer. Amongst issues discussed in this section are the TNM staging, accepted methods for survival analysis and competing risks. The second section describes the biological and genetic markers and the role of bioinformatics. Understanding of the genetic and environmental basis of cancers will help in identifying high-risk populations and developing effectiv