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	Titolo	Non-standard computation : molecular computation, cellular automata, evolutionary algorithms, quantum computers
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	ISBN	1-280-55942-X
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	Descrizione fisica	1 online resource (235 pages)
	Disciplina	511.3
	Soggetti	Molecular computers
		Cellular automata
		Evolutionary programming (Computer science)
		Quantum computers
		Computers, Hybrid
		Computational Biology
		Computers
		Biology
		Computer Systems
		Computing Methodologies
		Biological Science Disciplines
		Natural Science Disciplines
		Information Science
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	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Sommario/riassunto	In recent years, a discussion of fundamentally new computer concepts has been stirred up by new developments in various scientific areas.

Even newspapers carry articles containing evocative terms like Quantum Computers or Molecular Computers. The background is the need for better performing computers in applications which require an extremely high parallelism or a special behaviour such as the simulation of quantum systems. Examples include the design of a turbine with about 100 parts; a realistic simulation of say only 40 electrons in a solid; and the search for the shortest telephone line that connects 100 cities scattered over a country. These require calculations that are far beyond the power of conventional computers! This exciting book provides the first overview of, and introduction, to the chemical, biological and physical non-standard computation concepts which promise to solve these problems by a massive parallelism and a clever use of other effects: molecular and quantum computers, and genetic algorithms.; Written on a scientific level, it is an up-to-date information source for scientists and graduate students working in the field in physics, chemistry, computer and life sciences, as well as interested readers with a scientific background.