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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Biological and Biologically-Inspired Communication -- Towards a Self-structured Grid: An Ant-Inspired P2P Algorithm -- Robustness to Code and Data Deletion in Autocatalytic Quines -- A Computational Scheme Based on Random Boolean Networks -- On Channel Capacity and Error Compensation in Molecular Communication -- Molecular Communication through Gap Junction Channels -- Clustering Time-Series Gene Expression Data with Unequal Time Intervals -- Integrating Thermodynamic and Observed-Frequency Data for Non-coding RNA Gene Search -- An Evolutionary Approach to the Non-unique

Oligonucleotide Probe Selection Problem -- Stochastic π -Calculus
Modelling of Multisite Phosphorylation Based Signaling: The PHO
Pathway in *Saccharomyces Cerevisiae*.

Sommario/riassunto

The LNCS journal Transactions on Computational Systems Biology is devoted to inter- and multidisciplinary research in the fields of computer science and life sciences and supports a paradigmatic shift in the techniques from computer and information science to cope with the new challenges arising from the systems oriented point of view of biological phenomena. This special issue on Biological and Biologically-inspired Communication contains the extended versions of the best papers presented at the Second International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2007). The first three papers describe the applicability of bio-inspired techniques in the technical domain of computing and communication. The following two papers focus on molecular communication and the properties of such communication channels. Two further papers demonstrate techniques for the analysis of genes, and these are followed by a paper outlining an evolutionary approach to the non-unique oligonucleotide probe selection problem. The final paper, which is a regular paper, describes a stochastic π -calculus model of the PHO pathway.