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| Descrizione fisica      | 1 online resource (XXVIII, 840 p.)   |
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| Soggetti                | Artificial intelligence<br>Computers<br>Algorithms<br>Neurosciences<br>Neurology<br>Bioinformatics<br>Computational biology<br>Artificial Intelligence<br>Computation by Abstract Devices<br>Algorithm Analysis and Problem Complexity<br>Neurology<br>Computer Appl. in Life Sciences           |
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| Formato                 | Materiale a stampa   |
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| Note generali           | Bibliographic Level Mode of Issuance: Monograph  |
| Nota di bibliografia    | Includes bibliographical references and indexes.   |
| Nota di contenuto       | Foundations of Connectionism and Biophysical Models of Neurons -- Structural and Functional Models of Neurons -- Learning and Other Plasticity Phenomena, and Complex Systems Dynamics -- Artificial Intelligence and Cognitive Processes.   |
| Sommario/riassunto      | Underlying most of the IWANN calls for papers is the aim to reassume some of the motivations of the groundwork stages of biocybernetics and the later bionics formulations and to try to reconsider the present  |

value of two basic questions. The first is:

“What does neuroscience bring into computation (the new bionics)?” That is to say, how can we seek inspiration in biology? Titles such as “computational intelligence”, “artificial neural nets”, “genetic algorithms”, “evolutionary hardware”, “evolutionary architectures”, “embryonics”, “sensory morphic systems”, and “emotional robotics” are representatives of the present interest in “biological electronics” (bionics). The second question is:

“What can return computation to neuroscience (the new neurocybernetics)?”

That is to say, how can mathematics, electronics, computer science, and artificial intelligence help the neurobiologists to improve their experimental data modeling and to move a step forward towards the understanding of the nervous system? Relevant here are the general philosophy of the IWANN conferences, the sustained interdisciplinary approach, and the global strategy, again and again to bring together physiologists and computer experts to consider the common and pertinent questions and the shared methods to answer these questions.

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