Preface

This volume contains the papers emerged from the Ninth Brainstorming Week on Membrane Computing (BWMC), held in Sevilla, from January 31 to February 4, 2011, in the organization of the Research Group on Natural Computing from the Department of Computer Science and Artificial Intelligence of Sevilla University. The first edition of BWMC was organized at the beginning of February 2003 in Rovira i Virgili University, Tarragona, and the next seven editions took place in Sevilla at the beginning of February 2004, 2005, 2006, 2007, 2008, 2009, and 2010, respectively.

In the style of previous meetings in this series, the ninth BWMC was conceived as a period of active interaction among the participants, with the emphasis on exchanging ideas and on cooperation. Interesting enough, both the number of presentations and the number of participants have continuously increased in the last years. (The list of the participants is given in the end of this preface.) However, in the style of the of this series of meeting, these presentations were "provocative", mainly proposing new ideas, open problems, research topics, results which need further improvements. The efficiency of this type of meetings was again proved to be very high and the present volume proves this assertion.

The papers included in this volume, arranged in the alphabetic order of the authors, were collected in the form available at a short time after the brainstorming; several of them are still under elaboration. The idea is that the proceedings are a working instrument, part of the interaction started during the stay of authors in Sevilla, meant to make possible a further cooperation, this time having a written support.

A selection of the papers from this volume will be considered for publication in a special issues of *International Journal of Natural Computing Research*. After the first BWMC, a special issue of *Natural Computing* – volume 2, number 3, 2003, and a special issue of *New Generation Computing* – volume 22, number 4, 2004, were published; papers from the second BWMC have appeared in a special issue of *Journal of Universal Computer Science* – volume 10, number 5, 2004, as well as in a special issue of *Soft Computing* – volume 9, number 5, 2005; a selection

of papers written during the third BWMC have appeared in a special issue of *International Journal of Foundations of Computer Science* – volume 17, number 1, 2006; after the fourth BWMC a special issue of *Theoretical Computer Science* was edited – volume 372, numbers 2-3, 2007; after the fifth edition, a special issue of *International Journal of Unconventional Computing* was edited – volume 5, number 5, 2009; a selection of papers elaborated during the sixth BWMC has appeared in a special issue of *Fundamenta Informaticae* – volume 87, number 1, 2008; after the seventh BWMC, a special issue of *International Journal of Computers, Control and Communication* was published – volume 4, number 3, 2009; finally, a selection of papers elaborated during the eight BWMC was published as a special issue of *Romanian Journal of Information Science and Technology* (published by the Romanian Academy) – volume 13, number 2, 2010. Other papers elaborated during the ninth BWMC will be submitted to other journals or to suitable conferences. The reader interested in the final version of these papers is advised to check the current bibliography of membrane computing available in the domain website `http://ppage.psystems.eu`.

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