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Membrane Computing

7th International Workshop, WMC 2006
Leiden, The Netherlands, July 17-21, 2006
Revised, Selected, and Invited Papers

Springer

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Preface

The present volume contains a selection of papers presented at the Seventh Workshop on Membrane Computing, WMC7, which took place in Leiden, The Netherlands, during July 17–21, 2006. The first three workshops on membrane computing were organized in Curtea de Argeş, Romania – they took place in August 2000 (with the proceedings published in *Lecture Notes in Computer Science*, volume 2235), in August 2001 (with a selection of papers published as a special issue of *Fundamenta Informaticae*, volume 49, numbers 1–3, 2002), and in August 2002 (with the proceedings published in *Lecture Notes in Computer Science*, volume 2597). The next three workshops were organized in Tarragona, Spain, in July 2003, in Milan, Italy, in June 2004, and in Vienna, Austria, in July 2005, with the proceedings published as volumes 2933, 3365, and 3850, respectively, of *Lecture Notes in Computer Science*.

The 2006 edition of WMC was organized (and supported) by Lorentz Center, Leiden, under the auspices of the European Molecular Computing Consortium (EMCC). Special attention was paid to the interaction of membrane computing with biology, focusing both on the biological roots of membrane computing and on applications of membrane computing in biology and medicine. Furthermore, the meeting was planned also as an event promoting the interaction and cooperation between the participants (e.g., the workshop was one day longer than usually, with afternoons devoted mainly to joint work).

The pre-proceedings of WMC7 were published by the Institute of Advanced Computer Science (LIACS) of Leiden University, and they were available during the workshop. Each paper was refereed by two members of the Program Committee. As an indication of the healthy state of this research area, it is worth noting that both the number of submitted papers and the total number of contributing authors were bigger this year than last year, while the number, the variety, and the intricacy of applications (mainly in biology and medicine) also increased substantially. These observations are confirmed by the present volume. Most of the included papers were significantly modified according to the discussions that took place during the workshop.

The volume includes all the invited talks (seven this time) – more than for any proceedings of previous editions of WMC; moreover, this time the invited talks were chosen in such a way as to reflect the relationships of membrane computing to biology and medicine. Consequently, this volume is a faithful illustration of the current state of research in membrane computing (a comprehensive source of information about this fast-emerging area of natural computing is the Web page `http://psystems.disco.unimib.it`).

The Program Committee consisted of Matteo Cavaliere (Trento, Italy), Erzsébeth Csuhaj-Varjú (Budapest, Hungary), Marian Gheorghe (Sheffield, UK), Hendrik Jan Hoogeboom (Leiden, Netherlands) – Co-chair, Oscar H. Ibarra

(Santa Barbara, USA), Natasha Jonoska (Tampa, Florida), Shanhara Narayanan Krishna (Bombay, India), Gheorghe Păun (Bucharest, Romania, and Seville, Spain) – Co-chair, Mario J. Pérez-Jiménez (Seville, Spain), and Claudio Zandron (Milan, Italy).

The editors are indebted to the members of the Program Committee, to all participants in WMC7, and in particular to the contributors to this volume. Special thanks go to Lorentz Center, Leiden, for the perfect organization of the workshop, and to Springer for the efficient cooperation in the timely production of the present volume.

November 2006

Hendrik Jan Hoogeboom
Gheorghe Păun
Grzegorz Rozenberg
Arto Salomaa

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