

Preface

In the first part of the present volume of *LNCS*, the reader will find the invited talks given at the MCU 2001 conference. In the second part, he/she will find the contributions that were presented at the conference after selection. In both cases, papers are arranged in the alphabetical order of the authors.

MCU 2001 is the third conference in theoretical computer science, *Machines, computations and universality*, formerly, *Machines et calculs universels*. Both previous conferences, MCU'95 and MCU'98, were organized by Maurice Margenstern in Paris and in Metz (France), respectively.

From the very beginning, MCU conferences have been an international scientific event. For the third conference, in order to stress that aspect, it was decided to hold it outside France. Moldova was chosen thanks to the close cooperation between the present chairmen of MCU 2001.

MCU 2001 also aims at high scientific standards. We hope that the present volume will convince the reader that the tradition of previous conferences have been upheld by this one. Cellular automata and molecular computing are well represented in this volume. And this is also the case for quantum computing, formal languages, and the theory of automata. MCU 2001 does not fail its tradition of providing our community with important results on Turing machines.

We take this opportunity to thank the referees of the submitted papers for their very efficient work. The members of the program committee gave us decisive help on this occasion. Thanks to them, namely, Erzsebet Csuhaj-Varjú, Gabriel Ciobanu, Serge Grigorieff, Manfred Kudlek, Yuri Matiyasevich, Liudmila Pavlotskaya, Arto Salomaa, and Mephodii Ratsa, we can offer the reader this volume of *LNCS*.

The local organizing committee includes E.Boian, C.Ciubotaru, S.Cojocaru, A.Colesnicov, V.Demidova, G.Magariu, N.Magariu, L.Malahova, T.Tofan, T.Verlan, and S.Verlan. We would like to thank all these people for their work, especially Serghei Verlan for the preparation of this volume. We express our gratitude to all colleagues from the Institute of Mathematics and Computer Science of the Academy of Sciences of Moldova who have supported us in organizing this event. We have a special debt towards the director of the institute, Constantin Gaidric.

Special thanks are due to the town of Chişinău for its assistance, in particular to its mayor, Serafim Urecheanu.

MCU 2001 could not have been held without the help of significant supporters. We therefore thank the *Laboratoire d'Informatique Théorique et Appliquée, LITA*, the University of Metz, the *Pôle Universitaire Européen de Nancy-Metz*, and especially *INTAS* project 97-1259, namely, its western partners, the University of Metz and the University of Hamburg.

March 2001

Maurice Margenstern
Yurii Rogozhin

Organization

MCU 2001 was organized by the Laboratoire d'Informatique Théorique et Appliquée (LITA), University of Metz, Metz, France and the Institute of Mathematics and Computer Science, Academy of Sciences of Moldova, Chişinău, Moldova.

Program Committee

Erzsebet Csuhaj-Varju	Hungarian Academy of Sciences, Hungary
Gabriel Ciobanu	A.I.Cuza Universty, Iaşi, România
Serge Grigorieff	University of Paris 7, France
Manfred Kudlek	University of Hamburg, Germany
Maurice Margenstern	Co-Chair , LITA, University of Metz, I.U.T. of Metz, France
Yuri Matiyasevich	Euler Institute, Steklov Institute, St. Petersburg, Russia
Liudmila Pavlotskaya	Moscow Power Engineering Institute, Russia
Yurii Rogozhin	Co-Chair , Institute of Mathematics and Computer Science, Chişinău, Moldova
Mephodii Ratsa	Institute of Mathematics and Computer Science, Chişinău, Moldova
Arto Salomaa	Academy of Finland and Turku Centre for Computer Science, Finland