

Foreword

Only three years ago, three special issues appeared in three different high level international journal of computer science focusing on cellular automata. One of them was a special issue of **Fundamenta Informaticae**, which I had the honour to co-edit with Martin Kutrib and Hiroshi Umeo.

This time, after the successful workshop on **Tilings and Cellular Automata** held in Auckland in december 2004, within the conference **DLT'04**, a special issue was launched. This issue contains the papers selected after the corresponding call for paper. If we take into account that several journals regularly publish papers on cellular automata and that a new journal is specifically devoted to the topic, this issue witnesses the vitality of the domain.

This issue also reflects the today main trends in the domain of cellular automata. In a previous issue, my co-editors and me we insisted on the parallel development of theoretical works on cellular automata and of applications of cellular automata to various fields. This issue is also conformal to this rule. Accordingly, the reader will find theoretical works involving important tools of the theory of formal languages, of algebra and of topology and even hyperbolic geometry as well. He/she will also find two papers with more applicative character. One deals with the classification of patterns based on the observation of basins of attraction in the evolution of appropriate cellular automata. The second concerns numerical studies on special invariants which present an interesting property of critical behaviour.

I take this occasion to especially thank Andrzej Skowron, editor-in-chief of *Fundamenta Informaticae*, for giving me a new occasion to witness the vitality of cellular automata as a field of computer science. I am very thankful to the referees for their important and careful work, not only for reviewing the papers. By their remarks and suggestions they greatly contributed to improve the quality of the papers and the whole issue. Finally, it is my pleasure to thank the authors for their interesting and valuable contributions.

I deeply hope that the reader will be pleased by this special issue.

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