

27th IFIP WG 1.5 International Workshop on Cellular Automata and Discrete Complex Systems

AUTOMATA 2021, July 12–14, 2021,
Aix-Marseille University, France

Edited by

Alonso Castillo-Ramirez

Pierre Guillon

Kévin Perrot



Editors

Alonso Castillo-Ramirez 

Universidad de Guadalajara, Mexico
alonso.castillor@academicos.udg.mx

Pierre Guillon 

CNRS & Université d'Aix-Marseille, France
pierre.guillon@math.cnrs.fr

Kévin Perrot

Université d'Aix-Marseille, France
kevin.perrot@lis-lab.fr

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■ Preface

This volume contains the full papers presented at the 27th International Workshop on Cellular Automata (CA) and Discrete Complex Systems (DCS), AUTOMATA 2021.

AUTOMATA is an annual series established in 1995 as a collaboration forum between researchers in CA and DCS, and as the official annual event of the International Federation for Information Processing (IFIP), Technical Committee 1, on Foundations of Computer Science, Working Group 5, on Cellular Automata and Discrete Complex Systems. Current topics of the conference include, but are not limited to, dynamical, topological, ergodic and algebraic aspects of CA and DCS, algorithmic and complexity issues, emergent properties, formal languages, symbolic dynamics, tilings, models of parallelism and distributed systems, timing schemes, synchronous versus asynchronous models, phenomenological descriptions, scientific modeling, and practical applications.

This year's event takes place on July 12th-14th, 2021, in a hybrid mode, both online and at the *Centre International de Rencontres Mathématiques* (CIRM) in Marseille, France. It is colocated with the Workshop on Automata Networks, and both events are the opportunity to jointly celebrate Eric Goles's 70th birthday, from Universidad Adolfo Ibañez, Chile, who is a prominent actor in both communities. More information about the conference can be found at

<https://automata2021.lis-lab.fr/>.

This volume includes four papers written by the the invited speakers of the conference:

- Maximilien Gadouleau (Durham University, UK);
- Luca Priogioniero (Università degli Studi di Milano, Italy);
- Siamak Taati (American University of Beirut, Lebanon);
- Ilkka Törmä (University of Turku, Finland).

We sincerely thank them for accepting the invitation and their very valuable contributions.

We received nine submissions as full papers to the conference. Each submission was reviewed by three members of the Program Committee. Based on these reviews and on an open discussion, eight papers were accepted to be presented at the conference as full papers and to be included in this volume. We thank all authors for their contributions and hard work that made this event possible.

The conference program also involved short presentations of exploratory papers that are not included in these proceedings, and we wish to extend our thanks to the authors of the exploratory submissions.

We are indebted to the Steering Committee, Program Committee, and additional reviewers for their valuable help during the last months. We are very grateful for the support of the Local Organizing Committee. Finally, we acknowledge the excellent cooperation from the OASiCS team for their help in producing this volume in time for the conference.



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