Second Asian Symposium on Cellular Automata Technology, 2023
(ASCAT 2023)
March 2-4, 2023, Kolkata (India)
http://www.cellularautomata.in/ascat2023

Call for Papers

Important Dates:

Paper Submission deadline:	Friday, October 21, 2022
Notification of acceptance:	Friday, December 16, 2022
Deadline for camera-ready papers:	Tuesday, January 02, 2023

Aims and Scope of the Conference:

Aim of the symposium is two-fold: to nurture the theories of cellular automata, and to explore the cellular automata as technology. So all the theoretical aspects of cellular automata and their applications in any domain are within the scope of this symposium. In particular, the topics of interest include (but is not limited to) the following:

A. *Algebraic and Theoretical aspects of CA*
- Algorithmic and Complexity issues in Cellular Automata
- Formal Language Processing
- Cellular Automata and Logic
- Randomness
- Reversibility and Cycle structure
- Algebraic properties of Cellular Automata and Discrete Systems
- Characterization tools for Cellular Automata
- Conservation Laws and Cellular Automata

B. *Cellular Automata Models and Computation*
- Traffic models and Crowd dynamics
- Models for Distributed and Parallel Systems
- Lattice Gas and Lattice Boltzmann model
- Environmental, Social and Economical Modeling and Simulation
- Natural Computing
- Reversible and Quantum Computing
- Cellular Automata Architecture for Computation
- Cellular Automata for Computing-in-Memory Architecture
- Cellular Automata with Memory

- Integration of CA and Agent-based Modeling
- Sandpile Cellular Automata

C. *Non-uniformity in Cellular Automata*
- Non-uniform or Hybrid CA
- Asynchronous Cellular Automata
- Stochastic Cellular Automata
- Network Automata

D. *Cellular Automata, Hardware Design and Security*
- Circuit Design and Computer Architecture
- Memristor Design
- Security and Encryption
- Cryptography
- Secured Hardware Design

E. *Quantum-dot Cellular Automata*
- Logic Gates and Circuit Design
- Quiescent Quantum Cellular Automata
- Quantum Gate Cellular Automata
- Universal Quantum Cellular Automata
- Quantum computing
- Quantum lattice gases
- Quantum Reversible Automata
- Quantum Nano-Automata

F. *Cellular Automata, Machine Learning and Artificial Intelligence*
- Artificial Life
- Pattern Recognition
- Machine Learning
- Bioinformatics
- Image and Video Processing

Submissions:

Authors are invited to submit original, unpublished research papers of article typewritten in English that are not more than 12 pages (single column including figures, tables and references) via the EasyChair system at
https://easychair.org/conferences/?conf=ascat2023

Submissions must be formatted in LaTeX (Springer format) and submitted in Portable Document Format (PDF). For each accepted paper, at least one author has to complete full registration and present the paper.

Proceedings:
Accepted papers of the conference will appear in the proceedings published by Springer Nature in the book series AISC (Advances in Intelligent Systems and

Computing).

Special Issue:

Extended versions of a selected number of papers presented at the conference is planned to be published in a special issue of the Journal of Cellular Automata and Complex Systems.

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