SIXTH ASIAN SYMPOSIUM ON CELLULAR AUTOMATA TECHNOLOGY (ASCAT 2027)

https://ascat.cellularautomata.in/2027/

March 3-5, 2027 | **Institute of Mathematics and Applications (IMA), Bhubaneswar**

CELLULAR AUTOMATA • THEORY • APPLICATIONS • TECHNOLOGY

AIMS AND SCOPE

The symposium aims two-fold: to nurture the theories of cellular automata, and to explore 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 are not limited to) the following:

TOPICS OF INTEREST

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

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

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

G. Emerging Applications of Cellular Automata
- Ecological Issues
- Urban Development
- Graph Colouring
- Sensor Network Application

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 Arch. for Computation
- Cellular Automata for Computing-in-Memory Architecture
- Cellular Automata with Memory
- Integration of CA and Agent-based Modeling
- Sandpile Cellular Automata

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
- Pattern Recognition
- Machine Learning
- Bioinformatics
- Image and Video Processing

IMPORTANT DATES

Submission Deadline	~~October 09, 2026~~ October 23, 2026
Notification of Acceptance	Novenmber 30, 2026
Camera-ready Submission	December 15, 2026
Conference Dates	March 03 – 05, 2027

SUBMISSION LINK

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Patron: Prof. Jasobanta Jena

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- Katsunobu Imai (Fukuyama University, Japan)

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PUBLICATION

All accepted papers, after presentation will be published in **Springer CCIS (Communications in Computer and Information Science)** book series.

Springer | CCIS Communications in Computer and Information Science

SUBMISSION

- **Authors are invited to submit original unpublished research papers written in English that are not more than 12 pages (single column including figures, tables and references) via Springer Nature Submission System.**

  https://easychair.org/conferences/?conf=ascat2027

- **Submissions must be in LaTeX (Springer) format and submitted as PDF.**
- **Double-blind review process: submissions should be anonymous and must not contain any information that could reveal the author(s) identity.**

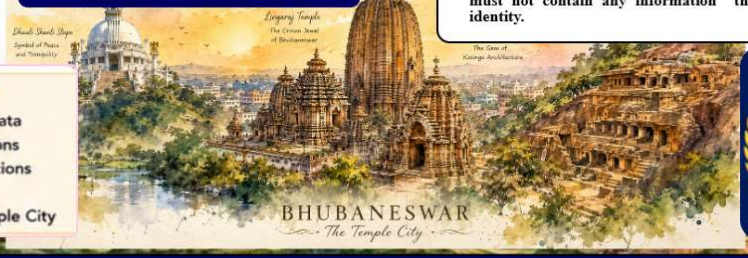
CONTACT

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WHY ATTEND ASCAT 2027?

- Cutting-edge research in Cellular Automata
- Expert keynote talks and technical sessions
- Interdisciplinary applications and innovations
- Networking with global researchers
- Beautiful city of Bhubaneswar – the Temple City



ASCAT: WHERE THEORY MARRIES TECHNOLOGY

Organized by Institute of Mathematics & Applications (IMA), Bhubaneswar in association with *Cellular Automata India*