Fourth Asian Symposium on Cellular Automata Technology, ASCAT 2025
March 06-08, 2025
Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India

Aims and Scope of the Conference: The symposium aims two-fold: to nurture cellular automata theories and 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 is not limited to) the following:

Conference Tracks

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

Cellular Automata, Hardware Design and Security
- Circuit Design and Computer Architecture
- Quantum-dot Cellular Automata
- Memristor Design
- Security and Encryption
- Cryptography
- Secured Hardware Design

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

Emerging Applications of Cellular Automata
- Ecological issues
- Urban development
- Graph Colouring
- Sensor network applications

Cellular Automata Models and Computation
- Traffic models and Crowd dynamics
- Models for Distributed and Parallel Systems
- Lattice Gas and Lattice Boltzmann model
- Randomness
- Environmental, Social and Economical Modelling 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 modelling
- Sandpile Cellular Automata

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

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

Patron

Indranil Manna, Vice Chancellor, Birla Institute of Technology, Mesra, India

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Important Dates and Links

Conference Website	https://conference.bitmesra.ac.in/ascat2025/home
Submission Link	https://equinocs.springernature.com/service/ascat2025
Submission Deadline	October 25, 2024
Notification of Acceptance	December 24, 2024
Camera Ready Submission Deadline	January 3, 2025

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 EquinOCS Springer Nature Submission System. https://equinocs.springernature.com/service/ascat2025

Submissions are double blinded, and it must be in LATEX (Springer) format and submitted in Portable Document Format (PDF). For each accepted paper, at least one author must 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 CCIS (Communications in Computer and Information Science).

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

Contact Us

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For More Information Please Visit: https://conference.bitmesra.ac.in/ascat2025/home