

2nd International Conference on Advances in Artificial Intelligence for Society (ICA2S-2026)

Organized by **Indian Institute of Information Technology Bhopal, India**
In collaboration with **University of Vizja, Warsaw, Poland**

1. Title of the Special Track

AI-Driven Semiconductor Innovation: From Materials Discovery to Advanced Technologies

2. Track Description

AI has revolutionized the semiconductor industry at different stages, including materials discovery, device modelling, process optimization, circuit design, and manufacturing automation. This has shown the potential to reduce development time and design of next-generation semiconductor devices and systems. This special track covers the emerging research areas such as AI-assisted materials engineering, predictive modelling of semiconductor devices, intelligent VLSI design automation, fault detection in fabrication processes, and data-driven optimization of semiconductor manufacturing. Particularly, we will emphasize how AI can bridge the gap between fundamental materials research and technology deployment in next-generation electronics. This track will provide a comprehensive understanding of cutting-edge AI methodologies that are shaping the future of semiconductor technologies, fostering interdisciplinary collaboration and inspiring innovative solutions for the next generation of electronic systems.

4. Topics of Interest

(Topics include but are not limited to:)

1. Materials discovery using AI/ML
2. Modelling of semiconductor devices.
3. Data-driven next-generation devices
4. AI for Semiconductor Fabrication and Process Optimization
5. Machine Learning for VLSI Design Automation
6. AI-Based Fault Diagnosis and Reliability Analysis
7. AI for Semiconductor Packaging and Integration Technologies
8. Intelligent Process Control in Semiconductor Manufacturing
9. AI-Driven Design of Low-Power and High-Performance Semiconductors

5. Special Track Organizers

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6. Contact Information

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