

Completion Report

High-End Workshop on “Industrial Opportunities for VLSI, Artificial Intelligence and Communication Systems”

1. Overview

Event Title: High-End Workshop on Industrial Opportunities for VLSI, Artificial Intelligence, and Communication Systems.

Date: 10th – 14th June, 2024

Venue: Hybrid mode, Department of ECE, NIT Jalandhar

Duration: 5 days

Organized By: Department of ECE, Dr B R Ambedkar National Institute of Technology Jalandhar

Target Audience: Industry professionals, researchers, and students in the fields of VLSI, AI, and communication systems.

2. Objectives

- To provide insights into the latest industrial trends and opportunities in VLSI (Large-scale integration), Artificial Intelligence (AI), and Communication Systems.
- To facilitate knowledge exchange between industry experts and participants.
- To explore practical applications and case studies related to these technologies.
- To foster networking opportunities for collaboration and career advancement.

3. Key Highlights

Opening Session

- **Welcome Address:** Dr Tarun Chaudhary, Assistant Professor
- **Keynote Speech:** " Spintronics- Industrial Perspectives and Challenges Trends in VLSI and AI Technologies" by [Dr. Brajesh Kumar Kaushik, Professor, IIT Roorkee]

Technical Sessions

The High-End Workshop on Industrial Opportunities for VLSI, Artificial Intelligence, and Communication Systems was a DST- SERB sponsored event designed to explore and address cutting-edge topics in the fields of large-scale integration (VLSI), AI, and communication systems. The workshop typically features a mix of keynote speeches, technical sessions, and panel discussions led by experts from academia and industry.

VLSI (Large-scale integration): The workshop has delved into advances in semiconductor technologies, circuit design, and integration techniques. Topics might include innovations in chip design, power efficiency, and the scaling of VLSI systems to support emerging applications.

Artificial Intelligence: Discussions were mainly focused on integrating AI algorithms and models into hardware systems, particularly how VLSI technologies can be optimized for AI workloads. This might involve exploring new hardware architectures for deep learning and edge computing and the implications of AI on system design and performance.

Communication Systems: The workshop covered advancements in communication technologies, including 5G/6G networks, high-speed data transmission, and novel communication protocols. Emphasis was placed on how these systems interact with VLSI and AI technologies to enhance overall performance and efficiency.

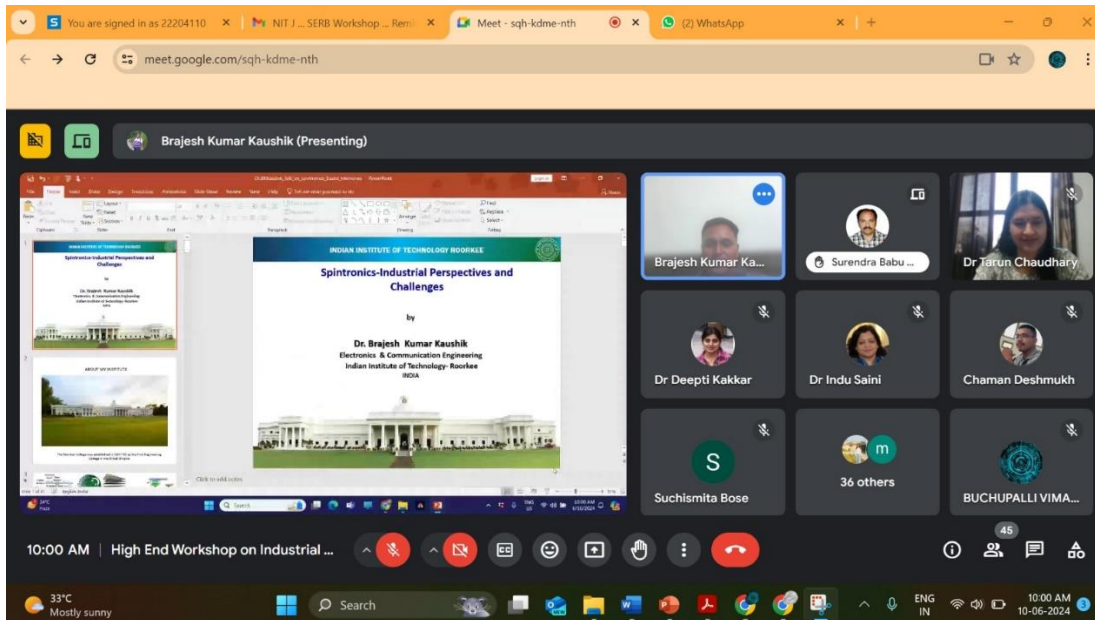
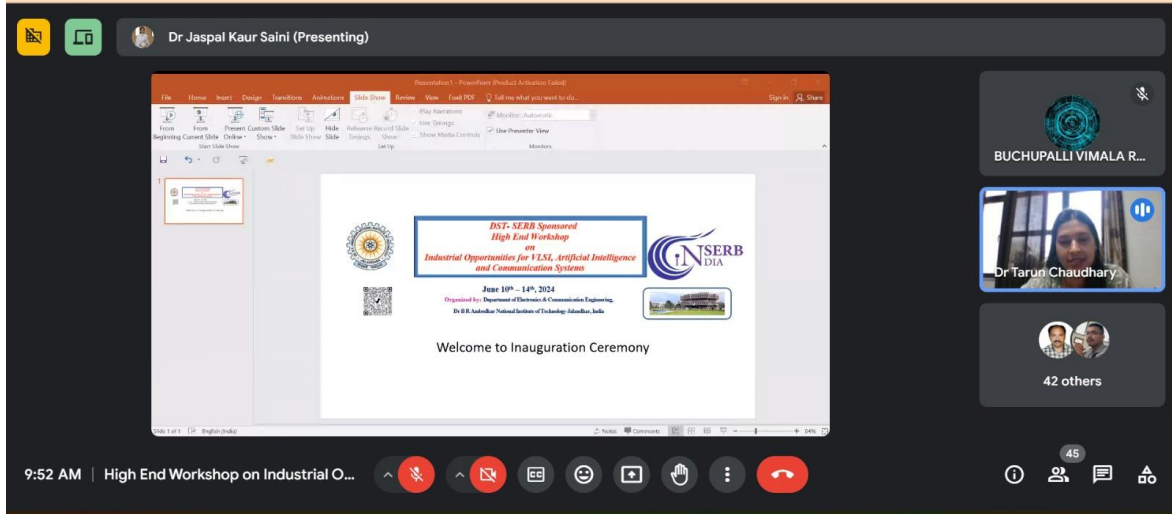
Overall, the workshop aimed to identify industrial opportunities, foster collaboration between researchers and practitioners, and drive innovation by highlighting emerging trends and technological advancements in these interconnected fields.

4. Outcomes

- **Increased Awareness:** Participants gained a deeper understanding of current trends and future directions in VLSI, AI, and communication systems.
- **Knowledge Transfer:** Key insights and practical knowledge were shared through technical sessions, workshops, and panel discussions.
- **Collaborations:** Several new collaborations and partnerships were initiated as a result of networking opportunities.

- **Future Recommendations:** Based on feedback, the workshop organizers recommend focusing on emerging topics like quantum computing in VLSI and ethical AI in future events.

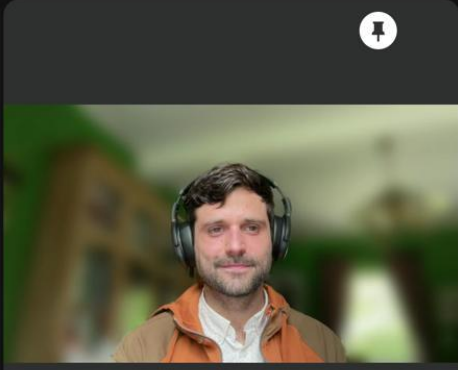
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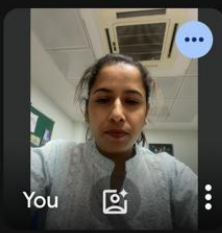
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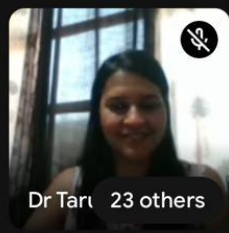
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