Technical Symposium on Future Research Trends (9th-13th Jan, 2023)

Future research trends encompass a wide array of disciplines, each driven by evolving technologies, societal needs, and scientific advancements. A concise overview of some key areas are provided here:

Artificial Intelligence (AI) and Machine Learning (ML): Continued exploration of AI and ML applications, including deep learning, natural language processing, and reinforcement learning, will shape industries like healthcare, finance, and autonomous systems.

Renewable Energy and Sustainability: Research into sustainable energy sources, energy storage, and environmental conservation remains critical. Technologies like advanced solar panels, energy-efficient materials, and grid innovations are focal points.

Quantum Computing: Quantum computing promises unprecedented computational power. Researchers are exploring applications in cryptography, optimization problems, and drug discovery, although practical implementations are still in the early stages.

Neuroscience and Brain-Computer Interfaces: Understanding the intricacies of the brain and developing brain-computer interfaces are burgeoning fields. This research has implications for healthcare, communication technology, and the treatment of neurological disorders.

Cyber security and Privacy: With the increasing digitization of society, research in cyber security is essential. This includes developing robust encryption methods, secure communication protocols, and safeguarding against emerging cyber threats.

3D Printing and Advanced Manufacturing: Innovations in 3D printing materials and techniques have broad applications in manufacturing, healthcare, and aerospace. This includes bio-printing of organs, custom manufacturing, and rapid prototyping.

Human Augmentation and Wearable Technologies: Research in enhancing human capabilities through technologies like exoskeletons, smart prosthetics, and brain-machine interfaces continues to progress, aiming to improve quality of life and performance.

It is essential to note that the interdisciplinary nature of many research trends often leads to collaborative efforts, driving innovation at the intersection of various fields. As technology evolves, these trends are likely to shape the future landscape, addressing global challenges and opening new frontiers of knowledge. A five day (9-13th Jan, 2023) Technical Symposium on Future Research Trends was organized by Eureka Prize Problems society in association with Eduroutes, Chandigarh under the mentorship of Dr. Souvik Ganguli and Dr. Amit Kumar. The program is detailed below.


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THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY (Deemed to be University)
TECHNICAL SYMPOSIUM
ON FUTURE
RESEARCH TRENDS
DR. AMIT KUMAR
Talk Title : Power Converter Control
PROF. ARUN KUMAR RANA
Talk Title : Unleashing Emerging Research trends and advancements in IoT
LIVE WEBINAR
DAY 01 | JAN 09 | 05:00 PM to 06:00 PM
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RESEARCH TRENDS
DR. NIRAV KARELIA
Talk Title: Introduction to smart grid and way forward
DR. JITENDER KAUSHAL
Talk title: Facility of distribution networks for EV charging infrastructure along the national-highway
LIVE WEBINAR
DAY 02 | JAN 10 | 05:00 PM to 06:00 PM


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RESEARCH TRENDS
DR. TAMAL ROY
Talk Title: Linear Fractional Transformation Modelling
DR. VIPIN CHANDRA PAL
Talk title: Introduction to Time-Delay Systems
LIVE WEBINAR
DAY 03 | JAN 11 | 05:00 PM to 06:00 PM
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RESEARCH TRENDS
DR. SOUVIK GANGULI
Talk Title: A Unified Approach to System and Control
LIVE WEBINAR
DAY 04 | JAN 12 | 05:00 PM to 05:30 PM


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RESEARCH TRENDS
DR. TAPSI NAGPAL
Talk Title: Multi-Disciplinary Research
PROF. VIVEK ARYA
Talk Title: Intellectual Property Rights
LIVE WEBINAR
DAY 05 | JAN 13 | 05:00 PM to 06:00 PM