Report

Industry Day 2023
February 3-4, 2023

Indian Institute of Technology Jodhpur

ABOUT THE EVENT

IIT Jodhpur was established by the Ministry of Human Resource Development (MHRD), GoI, along with the eight other IITs in 2008. Responding to the changing trends in the industry, IIT Jodhpur has introduced new UG, PG, and research programs in Artificial Intelligence, Data Science, Cyber-Physical Systems, Sensors, Internet of Things and Smart Manufacturing. The Institute now promotes interdisciplinary research in emerging domains, including Space Technology, Internet of Things, Digital Humanities, Autonomous Unmanned Vehicles, Smart Health, Cognitive Science, and Quantum Computing. Special provisions have been created in the curriculum for enabling students (UG, PG, PhD) to pursue entrepreneurship or getting engaged in technology translation as part of their program.

The Institute is excited to share that it has created a vibrant ecosystem to enable sponsored and industrial research opportunities not only for faculties but also for students to contribute to multi-disciplinary projects and R&D for solving problems of industrial interest.

IIT Jodhpur is organizing its Industry Day 2023 on February 3-4, 2023 with an objective to establish links between industries and our academic and research programs. The two day event plans to engage policymakers, scientists, industry experts, and entrepreneurs in meaningful discussions and formulates way forward for stronger industry-academia linkages.

THEMES

AR-VR and Metaverse

Sensors and IOT

Resilient and Smart Infrastructure

Robotics and Mobility

Industry 4.0

Intelligent- and Neuro-marketing

Dependable and Responsible AI

Hydrogen Economy

Technologies for Sustainability

MedTech and Healthcare

KEY OBJECTIVES

- **Provide an avenue for potential collaboration opportunities between Industry and IIT Jodhpur.**

- **Create awareness about different research projects and resources of industry interest being undertaken by IIT Jodhpur.**

- **Platform to discuss the technological challenges industries are facing.**

- **Initiation of long term relationships with industries.**

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IIT Jodhpur has organized Industry Day 2023 on 3-4 February with an objective to establish, strengthen and endure IIT Jodhpur connects with the Industries including joint research projects, engagement of students, and faculty members with industries. The main themes of the events were Dependable and Responsible AI, Sensors and IOT, Intelligent- and Neuro-marketing, Technologies for Sustainability, Resilient and Smart Infrastructure, AR-VR and Metaverse, MedTech and Healthcare, Robotics and Mobility, Industry 4.0, Hydrogen economy. The event had participation from over 40 industries. The two-day event had a keynote session, Invited Talks, and panel discussions by luminaries from different industries. Prof. Santanu Chaudhury delivered the opening remarks and set the context, and also inform different initiatives of IIT Jodhpur. The keynote session was delivered by Mr. Virendra Gupta, CEO VerSe Innovation on Building Industries. He appreciates IIT Jodhpur's initiatives of inculcating entrepreneurship as an integral component of the curriculum are playing a vital role into it. He then discussed, inspired by his entrepreneurial journey, exciting opportunities and possibilities in the life span of entrepreneurship.

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The first thematic session is on Dependable and Responsible AI. AI systems are now omnipresent and being applied in many domains and applications. However, these systems are also being critically viewed from the lenses of dependability and being responsible. The principled approach to modern AI systems need to be revisited - beyond the standard outcome based notions. While responsibility and dependability are inherently human qualities, it is imperative that the AI systems should also imbibe these qualities. The theme had Ms. Anna Roy, Senior Advisor NITI Aayog as the keynote speaker. She discussed various initiatives on Responsible AI being taken by NITI Aayog and the Government of India. The theme also had a panel session with Dr. Lipika Dey from TCS Research Labs, Dr. Gaurav Aggarwal from Google Research India, Dr. Vidit Jain from LinkedIn, Dr. Shourya Roy from Flipkart, and Prof. Santanu Chaudhury from IIT Jodhpur as panellists. They identified the importance of including dependability during the development of the AI algorithm itself, rather than incorporating it as an after-thought.

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The theme Sensors and the Internet of Things (IoT) witnessed the keynote talks by Dr. Ashwini Aggarwal, Director, Applied Materials India who discussed how sensor technologies are rapidly evolving and will play a significant role in shaping the future of various industries, from healthcare to transportation and Dr. Arpan Pal, the Distinguished Chief Scientist and Research Area Head, Embedded Devices and Intelligent Systems, TCS Research who introduced the concept of using edge computing to implement AI-driven intelligent sensing systems. There was a panel discussion on strengthening Industry-Academia cooperation toward futuristic innovation in addressing practical challenges. Members of the panel Dr. Abhilasha Gaur, COO, Electronics Sector Skills Council of India (ESSCI) and Shri Amrit Manwani, the Chairman & Managing Director of Sahasra Group of Companies honored the audience and stressed upon the existing void and subsequent scope of innovation in the manufacturing sector that rightly justifies the vision of 'Make in India'. The discussion also highlighted the urgent need of early exposure to technology-driven education across the country to promote skill based capacity building.

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In the theme on Intelligent and Neuromarketing, the keynote address was delivered by Dr Jane Leighton, Vice President, BASES Ad Practice at NielsenIQ.com, where she touched upon the relevance of consumer neuroscience across various walks of life. The keynote was followed by a Panel discussion with eminent personalities from the Industry. Mr. Bhupesh Dinger, Director – Enrich, Ms. Diya Singh – Founder and CEO, Neurohook and Mr. Bhavya Madan, Co-founder and CTO, Neuophony had an engaging session and brought myriad perspectives on how consumer neuro-science, especially neuromarketing is shaping the consumer choices and decision making. The discussion ranged across views from the ethical issues pertaining to neuromarketing to what the consumer really wants.

IIT Jodhpur envisions being one of the leading academic institutions nationally and globally in infrastructure engineering. In line with that, Industry Day 2023 has the theme "Resilient and Smart Infrastructure". This theme had featured an exciting series of expert/keynote talks and panel discussions.

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The distinguished guests in this theme include Mr. Rajendra Inani (Head, Smart cities business unit, Tata Projects), Mr. Ashish Deshpande (Head, Cities, Buro Happold), Dr. Chitro Majumdar (Chief founder, RsRL), Prof. Chandan Gosh (Professor and Head, Resilient Infrastructure Division, NIDM), Mr. Manish Parihar (Director, Dams, WRD, Rajasthan).

The theme on AR-VR and Metaverse had two keynote talks followed by a panel discussion to introduce the audience to the current software and hardware progress in this theme. Prof. Simon See (NVIDIA) delivered the first talk and discussed the various technology development and hardware infrastructure created in NVIDIA for Metaverse creation. Mr. Pradeep Khanna visited IIT Jodhpur from Sydney to discuss the Evolution of VR-AR to XR to Metaverse and its impact on Education & Training. Dr. Amit Bhardwaj and Dr. Rajendra Nagar (IIT Jodhpur) presented the institute's progress on the research and technologies developed in the area of AR-VR and Metaverse. For the panel discussion, Dr. Lokesh Boregowda (Samsung), Mr. Rajat Ojha (Game-

tronics), Mr. Bharatkumar Sharma (NVIDIA), Prof. Neeraj Jain and Prof. Santanu Chaudhury from IIT Jodhpur were the panelists. Dr. Manish Narwaria moderated the discussion. They discussed the importance of AI in the development of AR-VR and Metaverse technologies and the regulations required for the responsible and robust Metaverse.

At the MedTech and Healthcare theme, these invited speakers and panelists interacted with faculty and students working in the areas of medical technologies. Prof. Vijay Chandru, Co-Founder, and Director, of Strand Life Sciences Bangalore, gave the keynote lecture. He outlined cutting-edge technologies employed by genomic laboratories across the world while detailing Strand Life Sciences' latest product PathCrisp. Following the keynote lecture, IIT Jodhpur showcased its achievements in MedTech innovations, research, and the launch of academic programs. She appraised that the flagship IIT-J & AIIMS-J joint programs in medical technologies is supported by the Jodhpur city

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knowledge innovation foundation, BioNEST funded by BIRAC, Biodesign deep-tech center funded by DBT, and Siemens supporting the prototyping prototyping process. In the panel discussion, panelists discussed and deliberated on how they can participate and collaborate with the flourishing MedTech ecosystem at IIT-Jodhpur. Satyendra Johari (Founder & Chairman, of Johari Digital) emphasized the physical proximity of his company with the IIT-Jodhpur campus and about previous collaborations of IITJ with Johari Digital. Esha Ray and Nimesh Ray (Entrepreneur/ Investor, AnayaFoods, Enray Inc., SOHA Wellness) brought with them their rich experience of building companies in the USA. As investors in medical technology companies within India and the US, they argued for changing mindsets towards startups within IIT Jodhpur.

In the theme, Robotics and Mobility Systems (RMS) the emphasis was on solving open research problems requiring an integrated approach through the fusion of knowledge from multiple fields including: mechanical, electrical, civil, computer science,

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chemistry, and materials. The event consisted of various technical talks and discussions ranging from futuristic technology development to industry-academia collaborations in the areas of Robotics and Mobility systems. The dignitaries who visited include: Dr. Abhay A Pashilkar (Director, CSIR NAL), Dr. Satyanarayana Murthy (Head, UAV Division, CSIR, NAL), Mr. Nishant Kejriwal (Head, Computer Vision Group at HiTech Roboticz).

In the theme on Technologies for Sustainability, the discussion revolves around enabling the process and requirements to ensure sustainability. The event consisted of keynote talks by Prof. VM Chariar (Maganese Ore India and Ekam Eco Solutions) and discussions ranging from futuristic technology development to industry-academia collaborations in the areas of Robotics and Mobility systems. The dignitaries who visited include: Shri Uttame Banerjee (Ekam Eco Solutions), Dr Ronak Sutaria (Respirer Living Sciences Pvt Ltd) and Shri Sudipta Das (Glen).

In the theme of Industry 4.0, the keynote was delivered by Suresh Perinjery, PTC Solutions. He
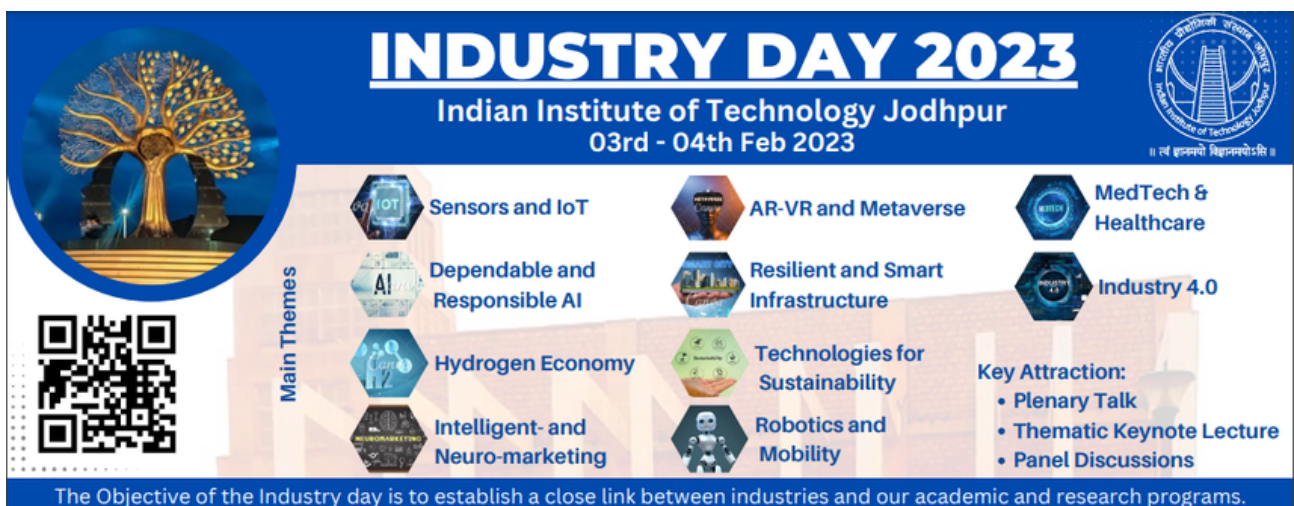
explained how the combined use of Digital Twin and Augmented Reality technologies can help in product design, manufacturing, and factories design and continuously analyzing them. The keynote was followed by the panel discussion where Mukul Gupta (Dynapt Solutions) and Naveen Kansara (Kansara Modler Ltd.) participated and demonstrated the benefits of using Industry 4.0 in various industries through several case studies and explained the role of IIT Jodhpur in developing Industry 4.0 based solutions for rapid detection of defects during manufacturing.

In the last theme, the deliberations were on the National Green Hydrogen Mission (Government of India), which is causing a wave of excitement in the business, industry, and scientific community. The overarching objective of the mission is to make India a global hub for hydrogen production, usage and export of green hydrogen and its derivatives. After the solar PV revolution, this decade is perhaps the decade of energy transition and hydrogen economy and it overlaps with India catapulting to a 5 trillion-

dollar economy by end of this decade. This year's Industry Day also has a theme on Hydrogen Economy. The keynote is given by Dr. Sandeep KC (BARC) and the panel comprises Shri. Pranav Baxi (L&T Energy – Hydrocarbon) and Dr. Suruchi Rao (Ossus Biorenewables, IKP Eden) and provides the insights on national hydrogen mission and on how IIT Jodhpur can contribute in the same.

The event also include the poster symposium. The stressed motive was to exhibit ongoing state-of-the-art research projects and innovations. The best poster awards were selected by a panel of judges who assessed the posters based on their scientific content, visual presentation, and overall impact. We are glad to report that there were 134 posters presented in the event.

GLIMPSES FROM THE EVENT!