



ESCI

COMMUNICATIONS



Volume XXXII

Issue 1

January - March 2023

DIRECTOR'S DESK

Artificial Intelligence Revolution In India



With technological advancements occurring at an accelerating rate, the artificial intelligence (AI) industry has significantly contributed to the creation of new chances for millions of people to have impactful jobs, build skills, and expand our economy in ways that will forever reshape the nation. In terms of investment for artificial intelligence research and technical advancement, India is one of the top 10 countries in the world. Today, India is using AI to help it reach many milestones. The fast digitalization of numerous industries, including banking, financial services and insurance (BFSI), telecommunication, healthcare, and automotive, is currently driving up demand for AI-integrated solutions throughout India. Leaders of medium and small firms are implementing the finest practices of AI in order to ensure growth and development into the mainstream market

Digital manufacturing technologies enable automation and self-optimization, resulting in operational proficiency throughout the whole value chain. As businesses and manufacturers stand to gain significantly from the superior application of machine learning and AI, artificial intelligence is no longer a fringe technology in India. AI is being used by businesses in India more and more to drive business results. However, there is a lot of buzz about what AI actually is.

According to the IMARC analysis, the artificial intelligence market in India had a value of US\$680.1 million in 2022 and is projected to increase to US\$3,935.5 million by 2028, with a compound annual growth rate (CAGR) of 33.28% from 2023 to 2028. The AI market is anticipated to continue expanding due to the rising popularity of cloud-based applications and the growing advantages associated with AI-driven decision-making. According to collaborative research by Microsoft and the Internet and Mobile Association of India (IAMAI), 16% of the world's AI talent is produced in India, making it one of the top three talent markets globally. Unquestionably, investing in AI and ML innovation would put Indian companies in a better position to compete on a larger regional and international scale.

Indian firms will reap huge benefits and gain a competitive advantage in the global marketplace if business leaders engage in developing our talent pool with a focus on fueling greater innovation in AI and ML.

Keeping in view of the benefits of artificial intelligence and its applications in various sectors such as power, civil, construction, maintenance, environment, transportation, logistics, finance, marketing, and human resources, ESCI is designing and organizing new training programmes on the application of artificial intelligence in various sectors of industry and looking forward to collaborating with various research organisations, public and private sector.

With best regards,
Dr G Rameshwar Rao, FIE



Dr. Rameshwar Rao, Director, and Sri Praveen Kumar, Head, Projects Division, ESCI receiving Golden Peacock National Training Award 2022 from his Highness Sheikh Nahayan Bin Mubarak Al Nahayan, the Cabinet Minister of UAE in Dubai



ESCI Board of Management members with ESCI Faculty Members



74th Republic day Flag hoisting our Director, Dr G Rameshwar Rao and Faculty Members and Staff of ESCI.

Events at ESCI

International Summit on Quality Indices in Higher Education



Faculty Development Cell, ESCI has organized an International Summit on Quality Indices in Higher Education from 23-25 March 2023 for which international experts from London, Poland, Indonesia, Malaysia, Germany, India and Thailand have delivered their invited talks and Conference Papers. Conference is being organized on the basis of 4 tracks namely Accreditation System, Ranking System, Governance Policy Leadership in Higher Learning Institutions and Technology Innovation and Entrepreneurship.

About 150 participants across India and abroad participated in this conference and more than 35 institutions represented in offline and virtual mode. Projects and Poster Presentations were also exhibited by students and winners were awarded prizes during the conference.

Principal Secretary to Govt of Telangana Sri. Burra Venkatesham, IAS along with former JNTU Vice Chancellor Prof. D.N Reddy inaugurated the conference. Dr. G. Rameshwar Rao, Director ESCI presented the welcome address and gave a brief on the IEI and ESCI activities.



Dr.G.Rameshwar Rao welcoming the chief guests Principal Secretary to Govt of Telangana Sri.Burra Venkatesham, IAS and former JNTU Vice Chancellor Prof. D.N Reddy

The participants had an opportunity to visit :

1. India's largest technology incubator t-hub.
2. Deep-tech Incubator Centre for Innovation and Entrepreneurship(CIE-IIITH)
3. India's largest FMD vaccine manufacturing Setup at Indian Immunological Ltd.

The Summit was well appreciated by participants as this International event has not only witnessed the invited talks and Conference Papers at Global Level but also student innovators to exhibit their ideas, posters and projects along with visits to the indias largest technology hub, vaccine manufacturing setup along with the deep technology Incubators within Hyderabad.

Civil & Transportation Engineering (CTE)



The division had trained 431 Sr level and Middle level engineers and managers from Ministry of Road Transport and Highways, Govt. of India in this quarter. Training on Traffic Management, Advanced Public Management system, Enforcement of Safety, Road Signage to minimize the accidents, Procurement of PMGSY works & Services including Standard Bidding Documents, Contract Management, Motor Clean Technologies, Including Alternative Fuels and EV's, Traffic Management, Vehicles Act and Developments in Transportation Sectors & Mobility etc., were conducted at ESCI Campus, Hyderabad, Darjeeling, West Bengal, Visakhapatnam, Andaman & Nicobar, Shimla, Himachal Pradesh and Srinagar- Jammu & Kashmir.

Environment & Management



The division has conducted Specific Training Programme on **"Integrated Capacity Building Programme of AMRUT Under MoHUA, GOI – Capsule –3"** for 104 Senior and junior level Officials of ULBs of Govt. of Chhattisgarh at ESCI, Gachibowli, Hyderabad during **January to March 2023**. The topics dealt in the training are Overview and Reforms of AMRUT 2.0 guidelines, best Practices on latest Infrastructure development and Rejuvenation of Water Body under Urban Wetland component, Advanced treatment technologies based on Waste Water Treatment for Zero Discharge Compliance etc., The participants have Interacted with Technical Experts and GHMC officials during the Technical Visits to Rain Water Harvesting Theme Park along with 339 MLD STP etc.

An Online Operational Course (Intermediate Level) on Infant, Toddler and Caregiver Friendly-Neighbourhoods (ITCN) was conducted by ESCI in collaboration with National Institute of Urban affairs (NIUA, Delhi) and Bernard van Leer Foundation (BvLF) on 10th February 2023. The topics covered during the programme were Infant-Toddler-Caregiver & their needs, Early Childhood Development (ECD) Related services to create ITCN, ECD Related services to create ITCN, Importance of data and evidence-based approach in achieving ITC friendly neighborhoods and cities etc.. The programme was well appreciated by the participants

Information Technology:



In this quarter the division had conducted CPDP Programs on "Network & Security Administration", "Advanced Excel for Report Generation & Analytics " and "Information Security Management System (ISMS ISO - 27001) Lead Implementer. Officers from BEML, BPCL, Ordinance factories, Security Press, IPRC ISRO Trivandrum, UJVNL Uttarakhand DCV, Defence organizations were sponsored for these programs.

Special Training Programs on "GeM Procurement Procedure" and "Software Testing & Quality Assurance" were organized for officers from DGAQA New Delhi during 09 - 11 March 2023.



Events at ESCI

Management & Technology



Management & Technology Division had conducted a 4-day technical training programme on **"Vibrations, Balancing, Alignment and Condition Monitoring of Rotating Equipment and Auxiliary Systems"** from 03-06 Jan 2023 at ESCI Campus, Hyderabad. Middle level and Sr. Level officers from organizations like GIPCL, CQAE (EFS), NLC India Limited, CPCL, GTRE, Adani Power, QAE (WE&FPC) & WBPDCCL were trained.

A Technical training on **"Level-II Certification in NDT-Ultrasonic Testing"** (In accordance with ASNT Document No.: SNT-TC-1A 2011) was organized by the division from 23rd to 27th January 2023 for Defence organizations officers. Eminent speakers from industry, NDT certified faculty members have shared their experience with the participants.

Apart from the division had also organized Professional Technical Training programs on **"Effective Spares Parts Inventory Management", & "Industrial Piping Practice and Maintenance – Problems and Remedial Measures"** during this quarter. Officers from The Fertilizers and Chemicals Travancore Limited, Kochi, National Fertilizers Limited, MP & Vedanta Limited were sponsored to attend these programs.

A five-day Special Training Programme on "Enhancing Techno-Managerial Skills" was organized for DRTC Officers by the M & T division from 16-20 January 2023. 25 participants have attended from DRDO Labs of all over India. Sponsored by CEPTAM, DRDO, New Delhi.

Power & Energy



Field visit to UHV Lab, CPRI, Hyderabad as part of the Trg. Prog. On "Testing of High Voltage Power Equipment"

During the fourth quarter of the FY 2022-23, Power & Energy Division conducted 18 training programmes and executed one consultancy assignment.

Professional training programs on Pumps Operation, Maintenance & Performance Monitoring for Power Plant & Process Industries, CERC Regulations, Tariff Regulations, Power Trading, Exchanges & Merchant Power Plants, CEA Regulations 2010 - Electrical Safety & Maintenance, Power Quality, Harmonics Mitigation and Reactive Power Management (concepts of SIL, FACTS devices), Testing of High Voltage Power Equipment, Best Practices in Distribution System - Operation & Maintenance, Customer Relationship Management- Modernisation of Metering, Billing & Collection in Distribution Utilities.

New programmes on **"Cyber Security Issues in Power Sector"** and **"Implementation of Internet of Things in Transmission & Distribution"** have received good response from various power utilities like OPTCL, Orissa, APDCL, Assam, MP PKVVCL, Elec. Dept. Puducherry and IL&FS Tamilnadu Power Company Ltd.

The division has also conducted Specific inhouse Training Programs on **"Leadership Development"** for Senior Officers of APTRANSCO at VTPS Vijayawada, **Best Practices in O&M of Motors, Pumps, Valves & Actuators** to Engineers of Tirumala Tirupati Devasthanam, **"Power Trading"** for Power engineer of SJNL, Shimla and **"Hydro Turbines Governing & its Protection Systems"** & **"Environmental Impact Assessment and Environmental Management Plan"** to Middle & Senior level Officer of GETRI, Vadodara.

Quality & Productivity

During the 4th quarter the division had conducted training on "QMS Effective Implementation & Internal Auditing" 18-20 Jan'23, "Total Productive Maintenance" 15-17 Feb'23, "Six Sigma Green Belt" 06-10 Feb'23, "Laboratory Management System Awareness & Internal Auditing (As per ISO / IEC 17025:2005 & NABL Requirements) 25-28 Mar'23 online and offline programs. Defence organizations, Singareni Collieries Company Limited, Ordnance and Navy have sponsored their Officers for the programs.



The Community is educated on Rain Water Harvesting, importance of clean water and sanitation concept Har Ghar Jal, Monitoring of Water supply at household, Water Quality Monitoring & Surveillance and Strengthening of Water resources, Roles and responsibilities of Leadership development at Village level stakeholders.

Water Resource Development

Shri. Indersingh Parmar, Hon'ble Minister for School Education, M.P inaugurating the training on 9th March 2023 Engineering Staff College of India (ESCI) as a **Key Resource Center**, organized a 3 day residential training programme on "**Community (Level-3) Stakeholders on Participatory Planning, Implementation and O&M for Har Ghar Jal**" under Jal Jeevan Mission, Shujalpur, Madhya Pradesh State from 04 – 06 January 2023 and 09 – 11 March 2023. The training programme has been inaugurated by Shri. Indersingh Parmar, Participants at Shujalpur, Madhya Pradesh State under Jal Jeevan Mission Hon'ble Minister for School Education along with ESCI officials and Jal Jeevan Mission Team of Shujalpur block, Shajapur District.

Similar training was conducted from 08 – 11 February 2023 Mahasamund District, Chattisgarh State which was sponsored by Public Health Engineering Department, Govt. of Chattisgarh. Shri. Anil Kumar Lonare, SDO and Nodal Officer, JJM, Mahasamund inaugurated the programme and addressed the participants about the Jal Jeevan Mission Programme status in the district, importance of Safe Drinking Water, Water Quality Monitoring & Surveillance with some examples. Total 71 Participants got registered.



Participants visit to the Kharora Village, Mahasamund Block & District of Chhattisgarh State and interacted with the Sarpanch, Villagers and others involved in Water Supply system

Events at ESCI

ESCI Trainee Comment...

This training will remain long in our memories. You and your team have made it more memorable by graceful attitude and logistics. The whole ambience is best suited for professional training. I shall recommend and submit a report to my authority for professional training. My best wishes Thank you

Mr.Venkatesh D H, ICAR, Bengaluru (Trainee, Network & Security Administration Program)



Women's Day Celebrations at ESCI



*School of Post Graduate Studies -
Inauguration of Ethnic day celebrations*

ENGINEERING STAFF COLLEGE OF INDIA

(Autonomous Organ of The Institution of Engineers (India)

Gachibowli, HYDERABAD

School of Post Graduate Studies

Admissions Open For Batch 2023-25

AICTE Approved Two-Year Full Time Courses

PGDM-Infrastructure Management

PGDM- General Management

**PGDM- Industrial Safety and
Environment Management**

For Complete details visit:

www.escihyd.org / www.esci.edu.in

Contact: 9490116179, 9849697342, 7337319016

- **Placement Facilitated**
- **Education Loan facility available**

Future Programs

TRAINING CALENDAR FROM APRIL - JUNE 2023

Sl#	Name of the Course	Dates
Centre for Climate Change		
1.	Urban Planning, Green Cover and Biodiversity	11 - 13 Apr 23
2.	Implementing the Net Zero	26 - 27 Apr 23
3.	Construction and Demolition Waste Management and its relevance with Climate Change	03 - 05 May 23
4.	Nature based solutions for sustainable development	16 - 18 May 23
5.	Convergence for Synergy: One day workshop on SDG Goal 13 - Climate Action	23rd May 23
6.	Ecology and Biodiversity	19 - 21 Jun 23
Civil / Transportation Engineering		
1.	Modern Methods used Demolition of Buildings	24 - 28 Apr 23
2.	Concepts on Design, construction & Maintenance of Bridges	08 - 12 May 23
3.	Planning Design and Construction of Advanced Underground Subway	22 - 26 May 23
4.	Construction of Building without Bricks and Mortar	05 - 09 Jun 23
5.	Building Finisher & Rehabilitation Works	12 - 16 Jun 23
Design Prototyping Center and Mechanical		
1.	Advances in Design & Optimization of UAV's for Industrial Applications (Defence, Mining & Construction)	10 - 13 Apr 23
2.	Coating & Paint Technology	25 - 27 Apr 23
3.	Surface Engineering - Concepts, Applications and Emerging Technologies	15 - 17 May 23
4.	Reverse Engineering Techniques (collaboration with Industry)	22 - 24 May 23
5.	Process, Technology and Application of Aerospace Materials	05 - 07 Jun 23
6.	Metal Additive Manufacturing and its Applications	12 - 15 Jun 23
7.	Kinematics & Dynamics of Robots	26 - 28 Jun 23
Environment Management		
1.	Bio Medical Waste Management - Handling & Safe Disposal Options with New Rules 2016	04 - 06 Apr 23
2.	Advanced technologies-based Water and Waste Water Treatment for Zero Discharge Compliance	19 - 21 Apr 23
3.	Conducting EIA Study and Preparation of EIA reports - Case study & Group Discussion.	10 - 12 May 23
4.	Sustainable Urban Drainage System	24 - 26 May 23
5.	Air pollution Monitoring & Modeling using Software Applications - Theory & Practical's.	07 - 09 Jun 23
6.	Application of GIS, GPS & RS in Environmental Data Management.	13 - 15 Jun 23
7.	Performance Evaluation of Sewage Treatment Plants - Practical Aspects and Field Visits.	21 - 23 Jun 23
Information Technology		
1.	Cyber Security Best Practices for Managers & Executives	19 - 21 Apr 23
2.	Project Management using MS Project 2019	26 - 28 Apr 23
3.	Big Data Analytics for Business Decisions (Hands-on practical on MS Excel & Tableau)	08 - 11 May 23
4.	Network & Security Administration	22 - 26 May 23
5.	GEM Procurement Procedures - Gem Account operation from Basic to expertise (Buyer module) (Online)	05 - 09 Jun 23
6.	AWS Cloud Administration	12 - 14 Jun 23
7.	Blockchain Technology for Industry 5.0 (Online)	19 - 23 Jun 23
Management & Technology		
1.	Advanced Welding Processes, NDT Techniques and their defect Analysis (Theory and Practical Orientation)	24 - 28 Apr 23
2.	Conflict Management, Decision Making and Problem Solving Skills	10 - 12 May 23
3.	Interpersonal Effectiveness and Transcendental Intelligence for Innovative Leadership	22 - 24 May 23
4.	Operation, Maintenance and Quality Assurance of High pressure valves and Heat Exchangers	07 - 09 Jun 23
5.	Advances in Industrial Heat Treatment of Metals and Alloys	19 - 21 Jun 23
6.	Work Culture, Ethics and Values for Scientists and Technologists	26 - 28 Jun 23
Mining		
1.	Mechanization & Technology in Underground and Opencast Mining for Improved Productivity and Safety	04 - 06 Apr 23

Future Programs

Sl#	Name of the Course	Dates
2.	General Safety in Mining - Risk Assessment, Accident Prevention, Safety Management Plan, Safety Audit, Legislation, ISO- 31000	17 - 21 Apr 23
3.	Design & Optimization of Blasting in Opencast Mines	08 - 12 May 23
4.	Sustainable Practices in Mining: Environmental Laws & Policies, Land Acquisition, Social Impact Assessment, Rehabilitation & Resettlement, District Mineral Foundation, Application of Geographic Information System and Remote Sensing	22 - 26 May 23
5.	Mining Plan, Environmental Management Plan, Project Report, Project Evaluation, Application of Software, GIS, RS&ISO -14001:2015	05 - 09 Jun 23
6.	Safe Operation- In-Pit & Dump Slopes Stability in Mining & Highway Projects, Haul Roads Safety	21 - 23 Jun 23
Power & Energy		
1.	Power System Protection - Principles, Protection Relays and Fault Analysis	24 - 26 Apr 23
2.	Power Plant Cooling Towers, Compressors- Performance Optimization	26 - 28 Apr 23
3.	General Network Access (GNA) and Power Trading - ABT Scenario (Online)	02 - 04 May 23
4.	Pumps Operation, Maintenance and Performance Monitoring for Power Plant Applications	09 - 12 May 23
5.	Smart meter Integration - PMU Asset Management in T&D Utilities	17 - 19 May 23
6.	Best Practices in O&M of Coal Mills & Feeders	22 - 26 May 23
7.	Renewable Energy Systems - Wind & Solar - Grid Integration (Online)	07 - 09 Jun 23
8.	Latest Techniques in O&M of Steam Turbine & its Auxiliaries, Governing System	13 - 16 Jun 23
9.	Transmission Line Construction (Survey, Design of lines and construction practices)	20 - 23 Jun 23
10.	Distribution Transformers - O&M achieving Zero Breakdown	26 - 28 Jun 23
11.	Insurance and Risk Management in Power Utilities (Online)	24 - 26 Apr 23
Quality & Productivity		
1.	International Conference on Fast Emerging Trends in Mechanical, Materials Engineering and Quality INCOFEEQ-2K23 on	27 - 28 April 2023
2.	In-Service Inspection of Hazardous Chemical Industries by Non-Destructive Examination Methods	10-12 May 2023
3.	Leadership Excellence: An Innovative approach	22 - 24 May 23
4.	Total Quality in Vigilance	07 - 09 Jun 23
5.	Laboratory Management System Awareness & Internal Auditing (As per ISO / IEC 17025 : 2017 & NABL Requirements)	19 - 22 Jun 23
Water Resource Development		
1.	Dam Safety Guidelines - Monitoring and Protection Measures and Emergency Action Plan	17 - 21 Apr 23
2.	Climate Change Impact on Water Resources, its Imitation and Adaptation	01 - 04 May 23
3.	Assessment of Irrigation Demand and Irrigation Scheduling using Latest Software Applications	23 - 25 May 23
4.	Contract Management and Dispute Resolution in Projects	05 - 09 Jun 23
5.	Flood Analysis Using Advanced Software Techniques	19 - 23 Jun 23



Contact:

The Director
Engineering Staff College of India
 Old Mumbai Road, Gachibowli,
 Hyderabad 500 032. Telangana State
 Tel: 040-66304102
 Visit: www.esci.org | www.esci.edu.in
 Email: director@esci.org | ic@esci.org