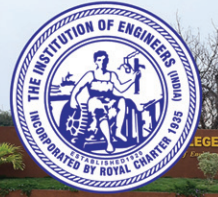




# ESCI

## COMMUNICATIONS



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## DIRECTOR'S DESK



### ENGINEERING A SUSTAINABLE FUTURE

Engineering Staff College of India (ESCI) successfully organized a 2-Day International Conference on Innovations in Engineering and Technology for Sustainable Development During 28-29 November 2024.

This event served as a platform for Researchers, Practitioners, Academicians and Policymakers to deliberate on Innovative Engineering Solutions for achieving Sustainable Development Goals (SDG) and to address critical global issues.



Sustainable Development in Engineering is vital for aligning technological progress and industrial growth with environmental preservation and resource conservation. Engineers play a key role by designing solutions that reduce environmental impact through renewable energy, eco-friendly materials, and efficient processes. These practices help lower carbon footprints, conserve resources, and address global challenges like climate change while fostering innovation, job creation, and economic growth, ensuring a sustainable future for generations to come.

Recognizing the critical role in achieving the objectives of the conference, researchers and professionals from prestigious institutions, submitted papers and delivered insightful presentations during the Conference. The conference served as a platform for sharing pioneering ideas and advancements, fostering collaboration, and driving progress towards sustainable engineering solutions.

The 2-Day event commenced with captivating cultural programs and many senior members of the Institution of Engineers (India) made their presence felt by their inspirational speeches which set the tone for the Conference. Key highlights of the event included thought-provoking paper presentations by scholars from diverse disciplines, the signing of Memoranda of Understanding between ESCI and esteemed educational institutions, and the unveiling of the souvenir. This remarkable event marked a significant milestone in the history of ESCI.

With best regards,  
**Dr. G. Rameshwar Rao, FIE**

## SDG Goal 9

**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



*Scientists study the world as it is.. Engineers create the world that has never been.*

## Pioneering Ideas for a Smarter Future

A report on the 2-Day International Conference on Innovations in Engineering and Technology for Sustainable Development. The Engineering Staff College of India (ESCI) successfully organized a two-day International Conference on *Innovations in Engineering and Technology for Sustainable Development* during 28-29 November 2024. The event served as a platform for Researchers, Practitioners, Academicians and Policymakers to deliberate on Innovative Engineering solutions for achieving Sustainable Development Goals (SDG) and to address critical global issues.

The inaugural session on 28 November 2024 began with the ceremonial lighting of the lamp by Dr. Nutan Kumar Dash, Vice Chairman of the Institution of Engineers (India) alongside senior members including Dr. Narender Singh, Dr. ISN Raju, Dr. S. Naga Bhushan Rao, Dr. Chowde Gowda, Dr. S. Satyanarayana, Mr M. Nagaraj, Mr P. M. Gunaraja, Dr. Hanumantha Chary, MrB. Brahma Reddy, MrSurya Prakash, MrUdaya Krishna, and MrKrishna Reddy.

In his keynote address, **Dr. Narender Singh**, former President of the Institution of Engineers (India), emphasized the role of Engineering Innovation in advancing India's *Atmanirbhar Bharat* initiative. He highlighted the necessity of fostering new industries, building smart cities, and promoting sustainable consumption and production practices to meet the 2030 SDG targets.

**During the 2-Day conference the following speakers delivered technical presentation on the sub-themes:**

### 28 November 2024

Dr. V.Balaram	Future Deep-Sea Mining for Critical Metals
Dr.RN Sankhua	A Drop of Insight in Navigating a Blue Future
Dr.HariSarvothaman	Water Qualities and Budget for Sustainable Management of Water Resources
Ms. SirishaIndukuri	Engaging with Social Concerns
Prof.KV Jaya Kumar	Environment Flows and Water Management
MrShyam Sunder	SWAT Assessment for Wyra Watershed
Dr.T V Rajnikanth	Analysis of Hyderabad Air Quality Data
Dr. Hari Prasad	Coastal Morphology & Sediment Transport Study
Dr. K.Srinivas	A Survey on Adoption of Automation in Construction Industry in India

### 29<sup>th</sup> November, 2024

Ms BK Lavanya	Science and Spirituality Partners for Peace
Dr.BakhtiarChoudary	Initiative E-Waste Management
MrP. Naveen	Performance Evaluation on Industrial Floors using Natural Mineral Admixture and Fibres
DrV.Ramakrishna	Study on Water Quality Index
DrB. Uma Maheshwara Rao	Ground Water Issues
Arch. MsMounika Sri	Incorporation of EV Charging Stations
Mr S. Umapathi, IPS (Retd)	Sustainable Development Technologies
Dr Ramesh Kanneganti	Innovations and Technologies in SDG
Mr E.Manikya Chakravarthy	Challenges of Energy Power
Mr AS Gupta	Enhancing Sustainability Reporting in Coal Sector
Mr Prasad Jaladi	Calling Upon the Engineers on the Warming Planet
Dr Praneethi Rao	AI in Smart City Architecture
Mr Anumula Naveen Kumar	IPR in the Development of Sustainable Industrial Processes

Dr. G. Rameshwar Rao, Director of ESCI, highlighted the institution's legacy of hosting conferences that address critical global challenges. He emphasized that the recommendations from this event would be shared with relevant government bodies to support sustainable development initiatives.

The conference underscored the urgent need for collaborative efforts and engineering innovations to address global challenges such as e-waste management, sustainable resource utilization, and smart city development by bringing together diverse stakeholders. A souvenir commemorating the event was unveiled by chief guest.

Dr.ISN Raju, the Chairman of Technical and Souvenir Committee and DrG.Rameshwar Rao, Chairman of the Organizing Committee along with the respective members and the other engineers staff of ESCI made the event grand success by their participation.



## Civil & Transportation Engineering Division



- 1) The C&TE Division has also organized Five Days Training program on "Vehicle Scrapping Policy" Sponsored by the Ministry of Road Transport and Highways (Transport Section), Govt. of India, New Delhi from 04 - 08 November, 2024 (3 Days) at Bangalore in Karnataka State

Total 27 Officers attended this Training Program from MORTH, New Delhi, Directorate of Transport, Himachal Pradesh, APSRTC, Vijayawada, Police Department, Puducherry, Transport Department, Andhra Pradesh, Transport Department, Tripura and also from BMTC Transport Department, Bangalore from Karnataka

- 2) The C&TE Division organized Online Training program on "Role of Information Technology in Traffic Management" - Sponsored by the Ministry of Road Transport and Highways (Transport Section), Govt. of India, New Delhi on 12th November, 2024 at ESCI Campus

Total 30 Officers attended this Training Program from Police Department Meghalaya, Transport Department, Uttar Pradesh, Police Department, Telangana, Police Department, Rajasthan, Transport Department, Gangtok, Assam State Transport Corporation, Transport Department, Haryana, Maharashtra State Road Transport Corporation

- 3) The C & TE Division organized another Five Days Training program on "Motor Vehicle Aggregator Guidelines" Sponsored by the Ministry of Road Transport and Highways (Transport Section), Govt. of India, New Delhi 18 - 22 November, 2024 (5 days)

Total 15 Officers attended this Training Program from Police Department, Andhra Pradesh, Transport Department, Andhra Pradesh, A.P.S.R.T.C, Vijayawada, H.R.T.C, Shimla, Transport Department, Telangana,



Assam State Transport Corporation, Guwahati, and O.S.R.T.C, Bhubaneswar States.

- 4) The C & TE Division organized has also organized One day Workshop on "Safety Management in Construction of Buildings" on 19th November, 2024 Sponsored by DevashreeIspat (P) Ltd, Hyderabad.



Total 42 Engineers attended for this workshop from various Construction companies including My Home Construction Private Limited, Aparna Constructions & Estates Pvt. Ltd., Ramky Estates and Farms Limited, Kapil Project Management Consultants Pvt. Ltd, Kapil Engineers & Infrastructure Pvt Ltd, Kapil Design Consultants Pvt. Ltd, Candeur Constructions Pvt Ltd, Sneha Farms Pvt Ltd and ESCI - Project Division

- 5) The C&TE Division has organized Five Days Training program on "Traffic Management, Monitoring and Enforcement of Road Safety" Sponsored by the Ministry of Road Transport and Highways (Transport Section), Govt. of India, New Delhi 25 - 29 November, 2024 at ESCI Campus, Hyderabad



# Events at ESCI

## Information & Technology Division



Total 30 Officers attended this Training Program from MORTH, New Delhi, Himachal Pradesh Road Transport Corporation, Shimla, A.P.S.R.T.C, Vijayawada Police Department - Telangana, Transport Department - Andhra Pradesh States.

1. The I&T Division has conducted a 3 day CPDP programme on the **Advanced Excel for Report Generation & Analytics ( Online) from 25 - 27 November 2024**

The Objective of the program is to impart awareness of the advanced options existing in MS Excel and how to fully realize the usefulness of those advanced options in order to enhance the utility of MS Excel for Reporting Generation.& Data Analytics.

The Participants attended from different Directorate General of Quality Assurance (DGQA) & OTPCL Units

- 2) The I&T Division has also conducted **BOSS Linux Administration (Online/Offline) from 26- 29 November 2024** at ESCI Campus, Hyderabad



The Objective of the program is to acquire a practical insight into the working and administration of a Linux based system and the participants attended from different Directorate General of Quality Assurance (DGQA) Units, Druk Green Power Corporation (DGPC), Corporate Office, Thimpu, Bhutan have attended the Training program.

## DPC & Mechanical Division



This Division conducted a CPDP on "Lubrication of Rotating Machinery" from November 25 to 28, 2024 in hybrid mode. The program aimed to provide an in-depth understanding of lubrication, including its types, as well as lubricants and their types. It covered lubrication techniques for specific machinery components such as bearings, gears, pumps, compressors, and electric motors, along with lubricant analysis, best maintenance practices, and case studies.

Engineers from Vedanta Ltd. and Vishnu Chemicals Ltd participated in the program and found it highly beneficial. Feedback highlighted that the course content, particularly the case studies, was exceptionally useful. Participants appreciated the relevance of the topics and the expertise of the speakers.

## Management & Technology Division

1. The Management & Technology Division has conducted a 5 day CPDP on "NDT Level - II Certification in Ultrasonic Technique (In accordance with ASNT Document No: SNT-TC-1A 2020) from 04 - 08 November 2024s at ESCI Campus, Hyderabad.

Five participants have attended from DQA (WP), DGQA, New Delhi, DQA (N), DGQA, New Delhi, CQAE (EFS), DGQA, Visakhapatnam & ASL, DRDO Hyderabad etc.

On Occasion, the eminent Speakers Mr. LV Ramarao, Dr. KGK Murti & Mr. P. Malleth addressed the gathering successfully.





- 2) The M & T Division had also conducted another 5 day CPDP on "Exploring AVEVA E3D Design: Revolutionizing Engineering and Design" from 25 - 29 November 2024 at ESCI Campus, Hyderabad. 10 participants have attended from IHQ, Indian Navy, DNA, New Delhi.

The eminent Speakers Mr. Jacob Alexander, Expert AVEVA E3D (from Mumbai) handled the programme successfully.



## Mining Division

1. CPDPL: Comprehensive Course for Workmen's Inspectors, Pit-Safety Committee Members & Electrical Supervisors during 11 -13 November 2024.

The Comprehensive Course for Workmen's Inspectors, Pit-Safety Committee Members & Electrical Supervisors is designed to equip professionals with the latest skills and knowledge needed for ensuring safety and compliance in mining and industrial environments. This specialized training addresses critical aspects of occupational safety, pit operations, and electrical supervision, preparing participants to meet the stringent regulatory requirements while fostering a safe workplace.

## Health India Needs Cereals: Millets Man of India, Padma Shri Dr. Khader Wali Speaks at ESCI Health Talk



Padma Shri Awardee and the "Millets Man of India," Dr. Khader Wali, renowned for his advocacy of millets and indigenous food practices, delivered an enlightening session on health and nutrition at the Engineering Staff College of India (ESCI). The event, jointly organized by ESCI and the Telangana Retired Engineers Association, took place at the ESCI Convention Center on 18<sup>th</sup> November, 2024.

In his address, Dr. Khader Wali emphasized the pivotal role of organic farming and the adoption of traditional food grains for a healthy lifestyle. Highlighting the benefits of "Five Rice Grains"—Korrlaru, Andu Korralu, Samalu, Arikelu, and Udalu—he stressed their significance in combating common health issues such as diabetes, obesity, anemia, and cancer. He advocated the restoration of these endangered grains and underlined their potential to revolutionize dietary habits for a "Healthy India."

Dr. Wali explained the medicinal properties of millets and cereals like sorghum, which have been cultivated since ancient times. According to him, transitioning to these grains and embracing organic farming could not only improve individual health but also contribute to a sustainable agricultural ecosystem.

Speaking on the occasion, Sri M. Shyam Sundar Reddy, President of the Telangana Retired Engineers Association and Chairman of the ESCI Governing Council, shared his personal experience of adopting a millet-based diet since 2018. At 75 years of age, he proudly stated that he remains free of lifestyle diseases like hypertension and diabetes, attributing his health to Dr. Wali's principles.

Dr. G. Rameshwar Rao, Director of ESCI, commended Dr. Wali's contributions to spreading awareness about the benefits of millets and pulses. He noted that Dr. Wali's efforts align with global recognition of grains, as seen in the UN's declaration of 2023 as the International Year of Pulses. The talk was attended by ESCI Heads of Departments, trainees, and dignitaries from various fields, which benefited immensely from Dr. Wali's insights on health and nutrition.



# Events at ESCI

The following experts delivered lectures on various sub-themes:

K J Amarnath, Head, Mining Division, E Jaya Kumar, DMS (Retired), Mr. P. Kumar, ED, Radial International, V Lakshminarayana Dy. DDG (Retired), Dr. Altaf Hussain Director Lords College of Engineering & Technology, Mr. P Mohan Kumar Gandhi, Trainer, Mr. G L Kanta Rao Dy. DGMS(Electrical)(Retd)



Mr Ajit Kumar, Executive Director, addressing the delegates during the programme on 25 November 2024. Prashant Agarwal, GM, HRD & L&DC, IOCL, Dr K V Shanker, Er K J Amarnath are also seen in the picture and interacted with delegates.

## 2. CPDP: Best Practices in Mine Surveying during 13 - 15 November 2024



Today's technology is changing the face of surveying. Revolutionary changes have taken place in surveying instruments. New technology like Laser Scanners and Drones, Unmanned Aerial Vehicles (UAV) are challenging traditional surveying methods that create data along with software solutions that maintain, display, analyse and manage the voluminous amounts of spatially located digital data.

## In this programme the following eminent faculty delivered lectures:

Er K J Amarnath, Head, Mining Division, Dr Hari Sarvothaman, DDG(GSI) (Retired), Mr. Arvind Rajyam, Consultant, Mr. Rajasekhar Rayapati, Co-Founder & CTO, Polygon Geospatial Private Limited, Dr N Srinivas, Indian National Centre for Oceanic Information Services, Mr. D Dinakar, Consultant.

## 3. STP: Trends in Blasting in Opencast Mines to Mitigate Undesirable Effects during 25 -27 November 2024 for IOCL Officers



Expert Engineers delivered lectures on Basics of Rock Geology, Blast Geometry. - Drill-hole Diameter, Spacing, Burden, Inclined Holes, Sub-grade Drilling, Stemming Column, Pilot Hole and Optimization of Rock Blasting Smart Drilling & Blasting, use of Electronic Detonators Control Blasting Techniques Software for



Mr Ajit Kumar, Executive Director, addressing the delegates during the programme on 25 November 2024. Prashant Agarwal, GM, HRD & L&DC, IOCL, Dr K V Shanker, Er K J Amarnath are also seen in the picture and interacted with delegates.



# Events at ESCI

design, analysis and assessment of blasting performance .Application of IOT, Unmanned Aerial Vehicle & Drones in blasting namely Prof. K V Shanker, Professor, Mining Department, Osmania University, Chandrasekhar, Blasting Officer, MEIL, Mr. Manish Sinha ED, (Retd.), IOCL, Srikant Vairagare, MD, Uttam Blastech Pvt. Ltd, Dr N Sri Chandrasahas, Dy. Manager, GTS Limited.



Mr Praveen Srivastava, GM, BD, IOCL; Manish Sinha, Executive Director, IOCL (Retd.); Er K J Amarnath, Course Director, ESCI; ErL Krishna, Faculty, during valedictory session on 27 November 2024, distributing the participation certificates to the delegates.

fleet operators experience has been shared in this visit) have been explained to the Participants.

The P&E Division also conducted a visit to "Thunder Charging Station wherein different Charging kiosks used for 2-wheeler, 3-Wheeler & 4-Wheeler has been shown and demonstrations done for the participants.

## WRD Division



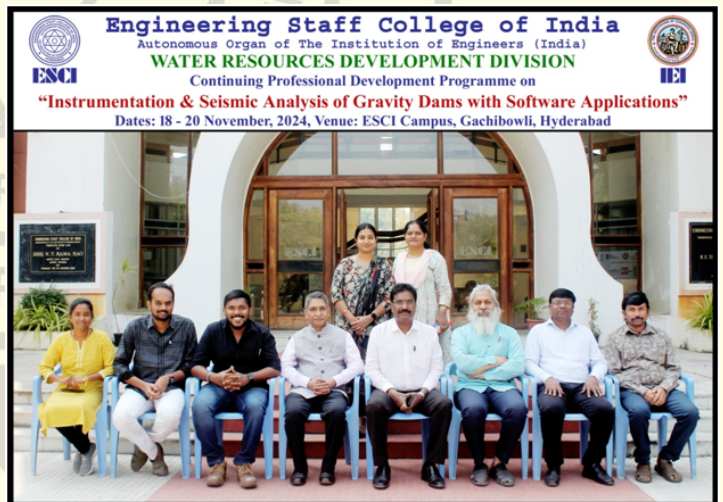
Nagarjuna Sagar Dam Engineer are briefing about the dam and effective operation & maintenance of Civil, Hydro mechanical equipment's including SCADA.

## P & E Division



P& E Division has conducted a 4-Day CPDP on " Challenges & Opportunities in EVs, Charging Stations and Grid Infrastructure-Latest EV Govt.Policies" from 12-15 Nov., 2024 in which 9 participants from CEA, BESCO, DGQA, APEPDCL & TGRTE are attended. The faculties attended are EM Chakravarthy, DE, TGSPDCL, Prof.(Dr.) M. Sridhar, Mahendra University, Dr. Pradeep Yamula, IIT, Hyderabad, Rajeev YSR-An entrepreneur from Thunder Charging Station and Er.G.Bhanu Ganesh, IITH (Research Scholar )

As a part of training Program, a Visit to Miyapur Depot ( TGRTE) has been arranged, wherein different Charging Stations and issues faced in Maintenance of EV Buses ( EV



Water Resources Development Division has conducted a three day CPDP on Instrumentation and Seismic Analysis of Gravity Dams with Software Applications from 18-20 November, 2024

The objective of the training is to provide an opportunity to the Engineers involved with Design, Construction, Maintenance and analysis of gravity Dams to enhance their knowledge on Instrumentation and Applications of Software for Seismic Analysis of Gravity Dams.. The Engineers attended from Tamilnadu Green Energy Corporation. As Part of exposure visit, the participants were taken to Nagarjuna Sagar Dam and shown them the best practices of effective maintenance of the Civil and Hydro mechanical equipment's.



## Capturing Moments...Inspiring Future A Photo Gallery of IETSD 2024



### Launching of Ortus International School at ESCI Centenary Convention Centre



On 15 November 2024, the Ortus International School officially opened its doors to usher in a new era of innovative, tech-enabled and holistic learning, offered through its first campus in Kokapet, Hyderabad. The grand launch was held at the

ESCI Centenary Convention Centre attended by esteemed dignitaries and education leaders.

Dr. Prasanna Mandava, the founding member of the school along with Dr.G.Rameshwara Rao, the Director, ESCI and others attended on occasion.

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