



IEI

NEWS LETTER

Uttarakhand State Center



APRIL 2023 to
SEPTEMBER 2023

A Century of Service to the Nation

INTERNATIONAL CONFERENCE ON “SMART INNOVATIVE TECHNOLOGIES FOR GREEN AND SUSTAINABLE DEVELOPMENT- SITGST 2023”



Disaster Awareness and Management forum IEI- Dehradun, in association with the Institution of Engineers (India), Uttarakhand State Centre Dehradun and Dev Bhoomi Uttarakhand University (DBUU), Dehradun organised a three-day international conference from 31st August to 2nd September 2023 on Smart Innovative Technologies for Green and Sustainable Development. The inauguration ceremony was held at Dev Bhoomi Uttarakhand University, Dehradun. This conference provided an excellent international forum for sharing knowledge and results in theory, methodology and application. Shri Narendra Singh, Past President, IE(I) was Chief Guest and Er. S C Goyal Chairman DAMF – IEI, Dehradun, Er. Dharm Chandra, Chairman, Uttarakhand State Centre, Dehradun, Shri Sanjay Bansal, Chancellor DBUU, Shri Aman Bansal, Pro Chancellor, DBUU, Prof. Preeti Kothiyal, Vice Chancellor, DBUU, and Prof. R K Tripathi Pro Vice Chancellor, DBUU, Er. J P Tomar, convener for the programme and Prof. Ritika Mehra, Dean, School of Engineering and computing, DBUU and also convener for the programme were guests of Honour.



The conference was attended by a large number of participants including foreign delegates. A total of 54 papers were presented in the conference.

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CHAIRMAN'S MESSAGE



The Institution of Engineers (India) Uttarakhand State Centre is presenting the Newsletter after a gap of almost six month on this occasion. I sincerely thanks the entire Executive Committee who had worked untirely during this period to make the each event

successful.

In the last six month period, number of events were organized in the state centre. In the month of April we got the NABL Certification for our IEI-Civil Engineering Lab after the successful visit of NABL inspectors. After getting this accreditation our Civil Engineering Laboratory got number of orders of third party inspection and numbers of testing of samples of various Civil Structures from UJVNL, Peyjal Nigam & other reputed organizations. Our lab is committed to provide testing of various samples in the Lab and at site in compliance to National & International Standards. We expect more & more work will be awarded to our lab by various agencies. During this period the cement, concrete & bitumen testing facilities have also been established & we have approached for NABL accreditation of these tests.

Today our country is contributing in new emerging world order and our centre has taken vital steps in this direction and conducted an International Conference on “Smart Innovative Technologies for Green and Sustainable Development” in collaboration with Dev Bhoomi Uttarakhand University Dehradun. Number of subjects of International interest were discussed in 3 days conference. On 2nd September 2023 the valedictory session was held at the seminar Hall of the Uttarakhand State Centre which was graced by the presence of Honourable Former Governor of Maharashtra Shri Bhagat Singh Koshyari ji & Honourable Founder of Hans Foundation respected Mata Mangla ji & Bhole ji Maharaj. The UTM machine installed in the test lab was also inaugurated at this occasion.

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FROM EDITOR'S DESK

Fresh breeze is blowing in Uttarakhand State Centre (UKSC). Perceptible changes are visible at all levels and in every direction. Many new things are happening even before the onset of new year. New Chairman and Honorary Secretary have been elected with the completion of tenure of the present ones. Many initiatives taken by the present Chairman have been put on fast track. Engineers Bhawan is getting a face-lift and internal facilities are being renovated. Focus is on conducting more activities and quality programmes on regular interval.

Newsletter is also expecting some major changes after disruption of its publication due to pandemic. There is a plan to increase its frequency of publication. A few pages may be devoted to technical articles on different topics. News on emerging technological innovations may also be included from different sources. It will encourage & facilitate members' contribution & participation to make Newsletter more interesting.

If on-going changes happening all around in UKSC are any indicator, it seems that the new year is going to be a year of changes in UKSC and take it to greater heights. With this desire & conviction, I wish Happy New Year to all the corporate members and a very bright future to UKSC.

Yogesh C. Verma

KNOW YOUR NEW CHAIRMAN AND HONORARY SECRETARY



Narendra Kumar Yadav
Chairman

Er. Narendra Kumar Yadav completed his B.E. in Mechanical Engineering in 1983 from the University of Roorkee (currently Indian Institute of Technology, Roorkee). After graduation, he worked at the Paper & Material Handling Plant of Larsen & Toubro Ltd. He joined the U. P. State Irrigation Department in 1986. He superannuated as Chief Engineer, Uttarakhand Irrigation Department and Managing Director, Uttarakhand Project Development & Construction Corporation Limited. He has vast experience in the Hydro-mechanical and Hydro-structural works including ground water exploration, drilling deep tube-wells in Bhabhar area, operation & management of state tube wells and design, fabrication and erection of hydro-mechanical equipment, gates, penstock etc. Some of the notable projects completed under his supervision are Shiv Dhanush Bridge, Har-ki-Pauri, Haridwar, construction of International Hydro Turbine Lab at IIT Roorkee, construction of Kosi Barrage, Bageshwar Barrage and planning of HM works for Tharkot Jaheel, Kolidekh Jaheel & Ganges Barrage and historic closure works of Ram Ganga Dam Projects, Kalagarh.



Satish Kumar Chauhan
Honorary Secretary

Er. Satish Kumar superannuated from NHPC (a Govt. of India undertaking) as General Manager / Head of Projects for hydro-projects located in Himachal Pradesh, J&K and Uttarakhand. He has 37 years of Experience in construction of hydro power projects as a civil engineer. He was involved mainly in execution, investigation & planning by getting different level of clearance for projects from Government of India and state governments. Major works undertaken by him involved river diversion, construction of concrete and rock fill dam, trench weir, intake tower, desilting chamber, pressure shaft & surge shaft, tunnelling and operations of contracts. His out of box thinking ensured early completion of projects. Better utilization of available resources resulted in partial commissioning of 800MW Parbati HE Project in Himachal Pradesh.

Tete-a-Tete with Er. N. K. Yadav, Chairman Elect, UKSC, Dehradun

Er. N. K. Yadav, Chairman Elect., Uttarakhand State Centre (UKSC) of IE (I) has a long innings of about forty years with IE(I). Even as a simple member of UKSC Executive Committee, he actively involved himself in all its activities and took some path-breaking initiatives. A workaholic by nature, he is associated with many academic institutions, industries, government departments etc. in various capacities. He has a grand vision and ambitious plans for the Centre and in this interview with Yogesh C. Verma, Editor, he shares some of his thoughts on various issues.

YCV : You have been associated with IEI in various capacities since long. How did it all start and how has been your experience?

NKY : I have been associated very closely with IE(I) since 1983 when I joined as AMIE which was later upgraded to MIE and then to FIE. First, I served as Executive Committee member of Roorkee Local Centre and then that of UKSC. It has been a very rich learning experience of professional give & take for me.

YCV: IEI Head Quarter and State Centres are inter-dependent and relationship is like mother and child. How do you plan to strengthen this bond further and create synergy with headquarters and other State Centres?

NKY : We already have a very strong relationship with the Headquarters and are constantly in touch with other state centres. Of course, it can be further improved with better communication and more interactions and we are working in this direction. We plan to invite office-bearers from the Headquarters from time-to-time for guidance and discussion. We may also explore the possibility of organising international events in association with other state centres.

YCV : One of the major challenges before UKSC is to increase the number of corporate members and enhance their active participation in Centre activities. How do you plan to overcome it?

NKY : We have set a target of 10% increase in corporate membership during 2023-24. For it, we are targeting various government departments, PSUs, universities & colleges and private companies located in Uttarakhand. We are also focusing on increasing the number of student chapters and have been able to start a few in recent past.

YCV: Infrastructure development and facility improvement has been a priority in UKSC and a lot of work has been done in this area. What are your plans to supplement and accelerate it?

NKY: Centre infrastructure needs to be augmented as our activities are increasing day by day. Conference room is being modernised with upgraded audio-visual facilities. Our renovated auditorium is one of the best in Dehradun. Guest-house has been developed aesthetically and compares well with any budget hotel. Its occupancy has increased manifold. Dining hall was furnished recently and we plan to start a day-time canteen here for the visiting members and guest-house residents. Landscaping of the surrounding area has been done with planting of exotic and herbal plants. We have planned for a total face-lift of the whole Engineers Bhawan and it will be executed shortly.



Er. N K Yadav, Chairman elect (on right) in conversation with Y.C. Verma, Editor

YCV: Institutional development and more activities at UKSC require more financial resources. What are your plans to address this issue and mobilise more resources?

NKY: Finance is not a major constraint for us and we will not let it affect our professional activities adversely. However, we have concrete plans to supplement our financial resources through different means. It includes organising training-programmes, work-shops, seminars etc. to generate additional revenue. Our Civil Engineering Lab is going to be a profit-earning entity shortly.

YCV: Local centres under UKSC are very active but closer alignment of resources may immensely benefit both. Have you given any thought to it?

NKY: I have already discussed this matter with the heads of Roorkee and Pantnagar Local Centres. I had a meeting with the Head of Roorkee Local Centre on 8th November, '23. Both these centres are represented in State Centre Executive Committee and their valuable inputs are taken into account in decision-making. As a new initiative, I have decided that at least one Executive Committee meeting of the State Centre should be held at each of these local centres.

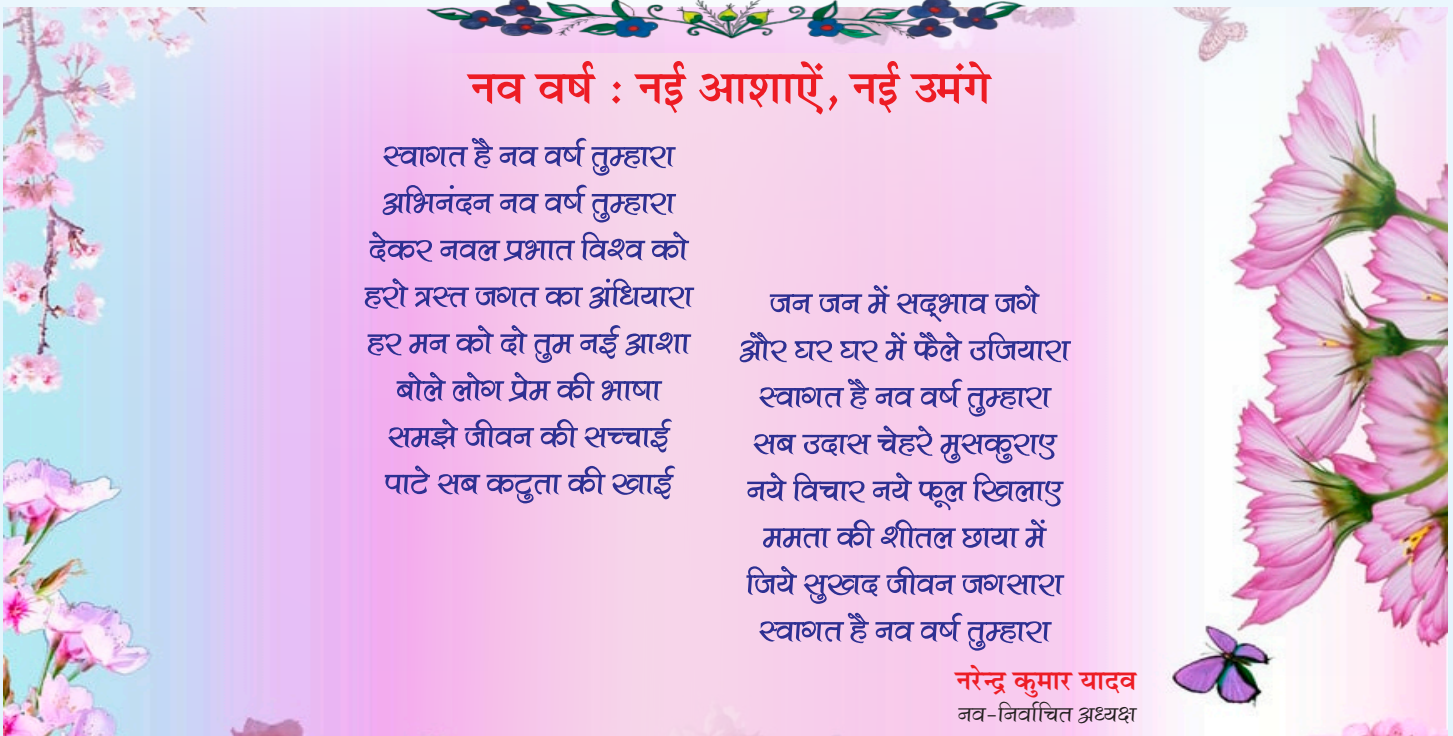
YCV: Have you framed a vision and road-map to make UKSC a vibrant, future-ready and one of the leading State Centres of IE (I)?

NKY: Of course, I have a grandiose vision in my mind for our centre and a blue-print for realisation of the same. But, I believe in action and I am already on the job. Right now, one of my priorities is to develop our Civil Engineering Lab, a first in the history of IE (I), as a commercial entity and make it one of the best in the region. In addition, I have discussed various other priorities and plans also with my team and a road-map has been finalised. Everybody will shortly see the result and outcome of our focussed efforts.

YCV: Corporate members of UKSC have very high expectations from you for more activities and better facilities in 'Engineers Bhawan', Dehradun. What is your assurance and message for them?

NKY: I am only the prime amongst the equals and every member including me has to work sincerely for the betterment of our centre. I believe in team-work, openness and transparency. I invite good ideas and suggestions from the members. I treat our Executive Committee meeting as a forum for generation of creative & innovative ideas and collective decision-making. I exhort every member to pool his/her professional knowledge, technical skill and collective intelligence together for emergence of UKSC as one of the best IE (I) State Centres.

YCV: Thanks for sparing your time and I wish you a grand succes as chairman of UKSC.



EVENTS AND ACTIVITIES

ALL INDIA SEMINAR ON “RESTRENGHTENING OF OLD BUILDINGS & CIVIL STRUCTURES BY RETROFITTING”



All India Seminar on “Re-strengthening of Old Buildings & Civil Structures by Retro-fitting” was organized by Uttarakhand State Centre, Dehradun in association with Disaster Awareness and Management Forum – IE(I) and was sponsored by Graphic Era University, Dehradun. The seminar was inaugurated by Dr. Onkar Singh, Vice Chancellor, Uttarakhand Technical University as the Chief Guest of the function. On this occasion about 120 participants were present from different organizations. Er. (Dr.) Narpinder Singh, Vice Chancellor, Graphic Era University (Deemed to be University), Er. Narendra Singh, Past President IEI, Dr Santano Sarkar Director, Disaster Department, Uttarakhand Government were Guests of Honour of the function.

Er. Dharm Chandra, Chairman, UKSC welcomed all the guests and participants. Er S A Ansari gave a presentation on re-strengthening of old buildings by retro-fitting. Dr. Amit Srivastava, Professor, Graphic Era University presented more insight into foundation of buildings and structures. Dr Prashant Agarwal, Director, IEI Civil Engineering Laboratory delivered a lecture on destruction tests on old building in seismic zone. Dr Shantanu Sarkar, Director, Disaster Department, Uttarakhand Government gave a lecture on landslide hazards, mitigation challenges & future direction. Er. Vineet Chauhan made a presentation on industrial fire hazards and prevention method. Er. N K Yadav, Chief Engineer (Retd.), Irrigation Department, Uttarakhand Government gave a lecture on Tsunami how to design a building that will remain safe during flood & tsunami. At the end, Er. S C Chauhan, Ho. Secretary proposed a vote of thanks .

WORKSHOP ON AIR QUALITY

One day workshop on Air Quality was organized by Disaster Awareness and Management Forum (DAMF) – IEI, Dehradun jointly with The Institution of Engineers (India), Uttarakhand State Centre (UKSC), Dehradun on 17-06-2023 in the Seminar Hall of Engineers Bhawan, Dehradun. Shri Dharm Chandra, Chairman, Uttarakhand State Centre, Dehradun delivered welcome address. Shri S C Goyal, Chairman Disaster Awareness and Management Forum- IEI gave a brief note on the subject of Seminar and Speakers.

Shri N K Yadav, Board Member, DAMF, IEI, Dehradun in his presentation insisted on plantation of trees which give oxygen round the clock. Then he talked about good and poor air quality. Then he told about various states of pollution. He gave a brief description about reducing industrial air pollution. Forest fires causes huge amount of pollution. This fire is unplanned and uncontrolled. Transportation is a big cause of air pollution. Air pollution causes many health issues in human beings Er. N K Yadav concluded by saying that we all have to be conscious of air quality and then only it can be improved. Prof (Dr) Amit Srivastava of Civil Engineering Department, Graphic Era (deemed) University, Dehradun made his presentation on indoor air quality. He talked about sick building syndrome. A preventive maintenance programme is very essential. He told about how plumbing in buildings and windows in a building affect indoor Air Quality. About health impact he talked about NO₂, CO, VO^{es}, RSPM and pesticides. In basement radon gas gets accumulated, causing health hazards. In the last, he gave a list of indoor plants for keeping in our houses for improving air quality. Shri Narandra Singh, Past President IEI said the topic chosen by organizers is very relevant and we all should work on this issue. Shri Satish Chauhan, Honorary Secretary, Uttarakhand State Centre, IEI, Dehradun gave thanks to all and presented mementos to chief guests and speakers.

NATIONAL MARITIME DAY

National Maritime Day was celebrated for the 60th time in India this year. The day is observed on April 5 to spread awareness about international trade and the economy. In India's navigation, history was created when SS Loyalty, the first ship of The Scindia Steam Navigation Company Ltd, journeyed to the United Kingdom. This was a crucial step in India's shipping history when sea routes were controlled by the British. National Maritime Day was celebrated by UKSC in association with the JMD academy of Maritime, Dehradun on 5th April, 2023. The theme for the National Maritime Day 2023 was 'AmritKaal in Shipping'. Er. Pranee Mehta, Director JMD Academy was theme speaker on this occasion.

WORLD TELECOMMUNICATION & INFORMATION SOCIETY DAY

The Institution of Engineers (India), Uttarakhand State Centre celebrated 55th World Telecommunication & Information Society Day on May 17, 2023 at UKSC office. Er. R V S Chauhan, former council member IEI HQ Kolkata was the chief guest at this event. On this occasion UKSC Chairman Er. Dharm Chandra welcomed all the guests and participants and explained the objective of celebrating World Telecommunication and Information Society Day. He emphasized on the benefits of using telecommunication and information skills in the progress of the nation. Er. D C Gupta, convenor of this program, threw light on empowering the least developed countries through information and communication technology. There are about 46 countries worldwide that come under this category.

The Economic, social, education and health development of these countries can be done through Information and communication technologies. The Theme Speaker of the event Prof. Irfanul Hasan, Head of Electronics and Communication department, Graphic Era (Deemed to be) University, explained about the various next generation communication technologies. The senior engineer of Reliance Jio Infocomm Limited, Er. Abhay U. Nagale gave detailed information on the basics of communication and SG technologies.



The participants were informed on the contribution of Telecommunications and Information technology for personal development and national development by Er. RVS Chauhan. He motivated young participants about the need of the hour, and requested them to motivate their respective family and neighbourhood to use latest Telecommunication and Information technologies in day to day life. There were more than 110 participants present at the event. A number of executive and corporate members of Uttarakhand State Center also took part in this event. In addition, senior engineers such as Er. (Prof.) C P Sharma, Er. S C Goyal, Er. S P Singh, Er. R P Jamloki and Prof. Krishna Kumar, former VC of DIT University, Dehradun attended the function. All the participants took keen interest in the deliberations after the talks delivered by experts. At the end, Er. Hemeshwari Sharma, EC member of Uttarakhand State Centre presented the vote of thanks for all the participants who took part in this function.

56TH ENGINEERS DAY CELEBRATION

The Institution of Engineers (India), Uttarakhand State Centre, Dehradun celebrated the 56th Engineers' Day on 15th September 2023 in commemoration of 163rd Birth Anniversary of Bharat Ratna, Sir Mokshgundam Visvesvaraya in Seminar Hall of Engineers Bhawan, Dehradun. The theme of the day this year was "Smart Engineering for a Better world". Shri Subodh Uniyal, Hon'ble Minister of Technical Education and Forests, Govt. of Uttarakhand graced the occasion as Chief Guest. The Chairman UKSC Er. Dharm Chandra welcomed Chief Guest and other guests. Shri Uniyal spoke about Sir Mokshgundam Visvesvaraya's life and his contribution in building a new India. He said that all engineers must have high confidence and should give their best for the growth of India. Other Guests of Honour Er.

Narendra Singh, Past President, IEI, Er. Sandeep Singhal, MD, UJVNL, Er. Jaipal Singh, Engineer-In-Chief, Uttarakhand Irrigation Department, Er. Neelima Garg, GM, Uttarakhand Jal Sansthan, Er. Deepak Yadav, Engineer-in-Chief, Public Works Department, Dehradun, Er Anil Kumar, Managing Director, UPCL, Dr Onkar Singh, VC, Uttarakhand Technical University, Er S C Pant, Managing Director Uttarakhand Peyjal Nigam, Er A K Pant, HoD, Rural Works Department, Er. GAVS Prashad, E.



D. – HOI, ONGC and Er. B K Tiwari, HoD, Minor Irrigation also expressed their views. On this occasion, Dr. Amit Srivastava, Professor, Civil Engineering Deptt, Graphic Era University, Dehradun delivered the theme lecture on 'Engineering a Resilient Future: Building Stronger'.

Sri Subodh Uniyal honoured veteran engineers above 75 years of age. Er. Narendra Singh, Er M K Tayal, Er A K Rangari, Er Devendra Kumar Jain, Er K C Gupta, Er Krishna Kumar, Er R K Nautiyal, Er R K Goyal, Er Vijay Prakash were felicitated with shawl and a memento. About 125 engineers took part in the event. UKSC Executive Committee members Er. J P Tomar, Er. N K Yadav, Er. Himanshu Awasthi, Er. P K Goyal, Er. D C Gupta, Er. Satish Kumar, Er. Krishna Kumar, Er. S B Unyal, Er. Y C Verma, Er. Amit Kumar, Er. Prashant Aggarwal were also present on the occasion. Er. S C Chauhan, Honorary Secretary, UKSC presented a vote of thanks.

77TH INDEPENDENCE DAY 2023 CELEBRATION

77th Independence Day was celebrated on 15th August, 2023 in UKSC, Dehradun. To mark this glorious year, the day has been named 'Azadi Ka Amrit Mahotsav'. The Azadi ka Amrit Mahotsav is an initiative of Government of India to celebrate and commemorate the 75 years of independence and the glorious history of its people, culture and achievements. Azadi ka Amrit Mahotsav commenced on 12th March 2021 with a 75-week countdown to our 75th anniversary of independence and ended after a year on 15th August 2023. 'Har Ghar Tiranga' is a campaign under the aegis of Azadi Ka Amrit Mahotsav to encourage people to bring Tiranga home and to hoist it to mark the 75th Year of India's independence. UKSC presented Tri-colour to its members on the eve of the Independence Day. On 15th August, national flag was hoisted by the Chairman of the Centre in the Engineers Bhawan premises. It was followed by national anthem and patriotic songs and speeches by the members. Sweets were also distributed on this occasion to the present audience.

TECHNICAL VISIT TO TEHRI DAM (THDC TEHRI)

On 16th October 2023 a Technical Visit to Tehri Dam (THDC India) was planned for Executive Committee members of Uttarakhand State Centre, Dehradun. Er. Dharm Chandra, Chairman, UKSC welcomed the E C Members in the bus and summarized about the Tehri Town & THDC. The officers of THDC India Limited informed that THDC is under the ownership of Ministry of Power, Government of India. Tehri Dam is a multi-purpose rock and earth-fill embankment dam on the Bhagrathi River in New Tehri in Uttarakhand with a height of 260.5 meters (855 feet). It is the 12th tallest dam in the world. It is the primary dam of the THDC India Ltd. and the Tehri hydroelectric complex. Phase 1 was completed in 2006. The Tehri Dam withholds a reservoir for irrigation, municipal water supply and the generation of 1,000 megawatts of hydro-electricity. A preliminary investigation for the Tehri Dam Project was completed in 1961 under Jawahar Lal Nehru's ministry and its design was completed in 1972 with a 600 MW capacity power plant based on the study. Construction began in 1978 after feasibility studies but was delayed due to financial, environmental and social impacts. In 1986, technical and financial assistance was provided by the USSR, but this was interrupted years later with political instability. India was forced to take control of the project and at first it was placed under control of the Irrigation Department of Uttar Pradesh. However, in 1988 the Tehri Hydro Development Corporation was formed to manage the dam for which 75% of the funding was to be provided by the federal



government, 25% by the Uttarakhand state government and Uttar Pradesh would finance the entire irrigation portion of the project. At the end of the Visit Er S C Chauhan give the vote of thanks to all the E C Members.

WORLD STANDARDS DAY 2023

On 16th October 2023 World Standards Day 2023 was celebrated by UKSC at THDC Tehri Guest house. Er Dharm Chandra, Chairman, Uttarakhand State Centre, Dehradun welcomed all the members present during the programme. Er. N K Yadav gave a brief about the World Standards Day and its importance. Dr. Prashant Agarwal delivered a lecture on the theme "Shared Vision for a Better World: Incorporating Sustainable Development Goal (SDG3) for Good Health and Well-Being". He emphasised on increased understanding of the importance of standardization, quality assurance in healthcare, interoperability of healthcare systems, medical devices standardization, global collaboration and best practices. At the end, Er. S C Chauhan presented a vote of thanks to all the E C Members.



WINTER AMIE EXAMINATION 2022 FOR SECTION "A" (DIPLOMA & NON-DIPLOMA) AND SECTION "B"

This year the winter examination of AMIE 2022 was conducted at The Institution of Engineers (India), Uttarakhand State Centre, Dehradun in its premises for Section "A" (Diploma & non-Diploma) and Section "B" from 18th September, 2023 to 24th September 2023. This centre is centrally located and easily accessible for students from railway station / ISBT. This year the maximum number of students in a single session was about 45 in section "A" and Section "B" examinations. This examination was conducted successfully under the guidance of Shri S. C. Chauhan, the Honorary Secretary, UKSC, Shri S. B. Uniyal , Officer in-charge and Shri D C Gupta, Centre Superintendent. With the support of all the invigilators and office staff of UKSC, the examination process was completed successfully.

NEWS FROM LOCAL CENTRES

ROORKEE LOCAL CENTRE

WORLD TELECOMMUNICATION & INFORMATION SOCIETY DAY



The Institution of Engineers (India), Roorkee Local Centre celebrated World Telecommunication & Information Society Day on May 17, 2023 at Roorkee Local Centre. Prof. Ashish Pandey, Chairman of the Centre while welcoming the audience emphasized about the benefits of Telecommunication & Information Technology. He also briefed about the history of the day and theme of this year.

Prof. Sudeb Dasgupta, Deptt. of Electronics & Communication, IIT Roorkee graced the occasion as Key Note Speaker and gave the presentation on "The Role of VLSI in Modern Telecommunications : Enabling 5G and Beyond Revolution". In his address, Prof. Dasgupta shared with the audience the evolution of telecommunication technology and a brief history from MOSFET to VLSI technology. Besides, He highlighted about the challenges and latest innovations in telecommunication technology in today's time. The program ended with a vote of thanks by Mr. Vineet Kumar Saini. A large number of IEI Fellows, CBRI and IIT scientists, engineers, architects and students participated in the program enthusiastically.



ROYAL CHARTER DAY

The Institution of Engineers (India), Roorkee Local Centre jointly with Indian the Water Resources Society (IWRs) celebrated Royal Charter Day on September 2, 2023. The function was started with the welcome address of Prof. Ashish Pandey, Chairman, Roorkee Local Centre. Padam Shri Uma Shankar Pandey delivered a lecture on Traditional Water Conservation Techniques. In his lecture, Sri Pandey emphasized that for water conservation and management, each and every person in society should contribute. He reiterates the slogan of "Har Khet Per Med and Med Per Ped" for being the water secure villages in India. In the end, Prof. Basant Yadav, Hony. Secretary, IWRs presented a vote of thanks.

56TH ENGINEERS' DAY

The Institution of Engineers (India), Roorkee Local Centre celebrated 56th Engineers' Day on 15 September, 2023 to commemorate the birthday of the Legendary Engineer Bharat Ratna Sir Mokshagundam Visvesvaraya. Prof. Ashish Pandey, Chairman of the Centre in his welcome address mentioned about the Institution of Engineers (India), Roorkee Local Centre to the audience. Prof. M.L. Kansal, Deptt. of WRDM, IIT Roorkee briefed the audience about the life sketch of Engineer-Statesman Sir Mokshagundam Visvesvaraya and advised the engineers to imbibe his character.

Prof. R.N. Misra, Former, CMD, SJVN Ltd. & Prof. of Practice, IIT Roorkee, Guest of Honour in his speech

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discussed the role of engineers in nation-building. He said that Engineers have an extra responsibility and are capable of discharging this responsibility. Prof. Pradeep Kumar Ramancharla, Director, CSIR-CBRI, Roorkee, Chief Guest & Key Note Speaker in his speech emphasised that academia should focus on training students to innovate smarter and more resilient technologies in this era of intense competition and complexity, it is very important that students are encouraged to acquire cross-disciplinary learning by integrating fields such as engineering, environmental science, finance, law and policy studies to provide a holistic understanding of systems, in which they shall operate in their real field life. He also said that a culture of fostering teamwork and collaboration skills is very much needed, as innovation often requires multidisciplinary and cross-functional approaches. Er. Malvinder Singh, Past Chairman, Dr. Achal Kumar Mittal, Immediate Past Chairman of the Centre, Prof. M.L. Kansal, Prof. Pramod Agarwal; Prof. Basant Yadav felicitated on this occasion for their contribution from time to time to the Roorkee Local Centre. Er. Soju Joseph Alexander, acting Hony. Secretary of the Centre presented the Vote of Thanks.

FORTHCOMING EVENTS AND PROGRAMMES OF UKSC

Sl. No.	Duration	Topic	Organizer /Associate Organisation
1.	3-Day Seminar (28-11-2023 to 30 - 11-2023)	Quality Control and Quality Assurance of Civil Engineering Structures and Concrete Works	IEI UKSC Dehradun / Bridge Ropeway Tunnel Department, Dehradun and Others
2.	1-Day Workshop (23-12-2023)	Labour Laws, Labour Courts, Canal Laws	IEI UKSC Dehradun/ Uttarakhand Irrigation / PWD Department
3.	1-Day Seminar (18-12-2023)	Road Infrastructure in Himalayan States - Challenges	IEI UKSC Dehradun / Uttarakhand Technical University, Dehradun
4.	1-Week Workshop (15-01-2024 to 21 - 01-2024)	Disaster Prevention and Management for Sustainable Development	IEI UKSC Dehradun/ DAMF - IE(I) / Graphic Era Hill University, Dehradun / Disaster Forum, Washington, USA (Associated Foreign Bodies)
5.	2-Day Workshop (12-02-2024 to 13 - 02-2024)	State Level Workshop on Microsoft Excel & Google Sheet	IEI UKSC Dehradun
6.	2-Day Seminar (22-02-2024 to 23- 02-2024)	Hydro Projects In Himalayan Region	IEI UKSC Dehradun/ Uttarakhand Jal Vidyut Nigam/ Uttarakhand Irrigation Department

BIG DATA TECHNOLOGY IN MARITIME BUSINESS

Amit Singh

EC Member, UKSC – IE (I), Dehradun

Introduction

Maritime transport is a very important aspect of our lives, beginning with defense and ending with trips. All components and sensors of a ship provide powerful data about everything regarded of that ship, which could be analyzed in order to obtain patterns and to find out how that patterns influence the ship over the time. A great opportunity is when more ships are interconnected and data that is allowed to be provided from every ship is available for others. The data obtained from all ships on the world is so diverse and has a huge amount, becoming big data. It could be analyzed for providing predictions regarding the behavior of ship's components, digital systems, locations of other ships, customer behavior and so on. Today, we refer to big data as data sets that are very large and complex, containing different types of data: structured, unstructured and semi-structured. Human generated or Machine generated source.

Applications in the Maritime Industry

Vessel Route Planning and ETA Prediction. Managing ship sensors and accurately predicting the Estimated Time of Arrival (ETA) of vessels is one of the most important applications of big data. A better ETA prediction translates into reduced delays and a net improvement in the overall operational efficiency of the entire supply chain

Avoiding Costly Mistakes with Automated Analysis. Imagine a computer keeping track of everything that your company has been doing throughout the last few years. The system is constantly getting updated on information regarding the reasons behind vessel losses at sea, losses of containers in ports or storms on the high seas, port congestion due to excess of vessels, delays due to container shortages, etc.

Improved Ship Designing Practices. By analyzing data from the sensor of a previously used vessel that, let's say, underwent some structural damage in the due course of time, or of a vessel that is a marvel of modern naval architecture, shipbuilders will know exactly what changes they should make or what steps they ought to take while designing a new vessel.

Ship Chartering Analytics for Performance. It helps in finding the appropriate ship for transporting cargo at the most economical price which represents one of the hardest tasks for any charterer.

Vetting. The vetting organizations along with charterers (fleet should be acceptable for use by them) can scrutinize different aspects of collected data and choose the ideal vessel with minimal amount of pollution readiness, navigational and safety management risks.

Environmental legislation monitoring. New data-oriented regulations are coming in to force in the EU to monitor CO2 emissions and the system will give an indication of fuel switching as well as monitoring the current emissions.

Vessel Safety and Security. The use of wireless sensors and extensive satellite communication systems will increase vessel safety. Sensor data analytics will provide information on vessel maneuvering to avoid collision. The inbuilt sensors on machinery will provide real-time information about their current condition.

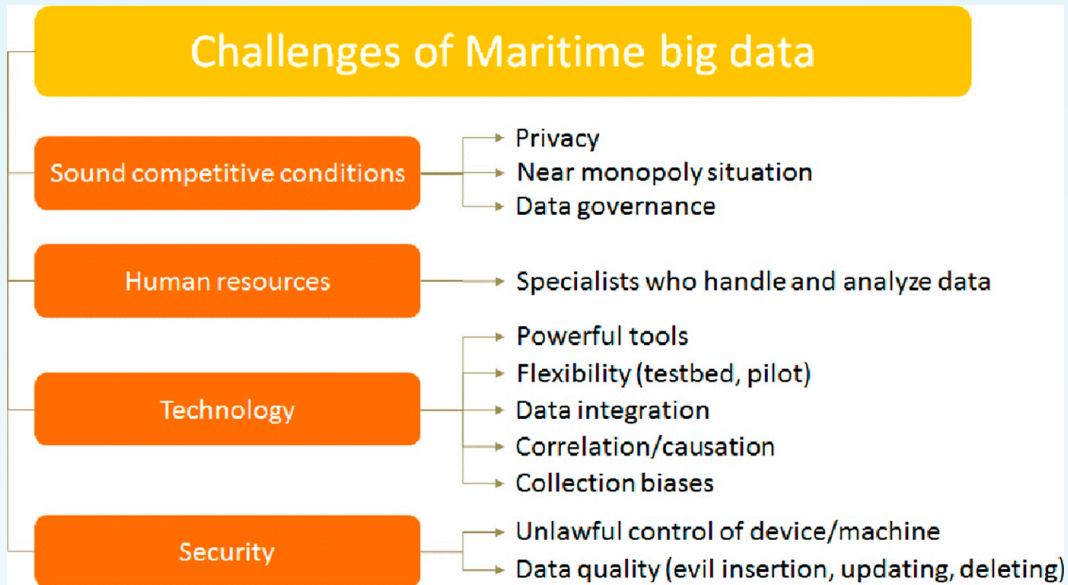
Predictive Maintenance System. The system will record all data and indicate risk of failure by synchronizing related data such as engine data, fuel consumption, running hours etc. It will reduce the cost of asset failures and minimize unscheduled downtime.

Energy Management. The ship energy management system will be run on the basis of real-time data of load requirements and power availability from all sources. The system will distribute and balance ship and shore power.

Performance Monitoring and Optimization. A range of data measurements are required for monitoring vessel performance and optimizing performance. Access to historical data is essential for optimizing and forecasting.

Continued on page 12

Challenges in Big Data Analytics



Conclusion & Future Works

Big data analytics have the potential to create a significant impact in the shipping industry. The shipping industry will be faced with ever-increasing requirements for safety, environmental and efficiency performance beyond 2022. Applying the right techniques of analysis and mining over huge datasets, we can obtain useful information. In maritime industry various information about ships their internal condition or the interaction between ships are collected in day to day operation. These data could be very useful and could improve the maritime if they are processed and knowledge is gathered in real time, helping for better decision making.

Continued from page 1

SITGST 2023

Keynote speaker for the programme was Er. N. K. Yadav, Chairman elect, UKSC who spoke on “the resources and environmental services on which our well-being relies. He also gave emphasis for Fostering Economic Growth & Development Ensuring Natural Asset” which continue to provide the resources and environmental services on which our well-being relies. He also gave emphasis for construction of Dakwar Dam on river Yamuna, Kishau Dam on river Tons, Pancheswar Dam on river Sharda. By constructing dam we can store water during rainy season, have more water supply in river downstream for irrigation, can ensure flood control in cities and generate, hydro-power. The closing ceremony was held in the seminar hall of 'Engineers Bhawan' of Uttarakhand State Centre, Dehradun. Hon'ble ex-Governor of Maharashtra and ex-chief minister of Uttarakhand Bhagat Singh Koshiyari was chief guest. Shri P C Dhyani Managing Director, PTCUL, Dehradun, Shri Anil Kumar, Managing Director, UPCL Dehradun, Sh. Sandeep Singhal, Managing Director, UJVNL, Dehradun along with Mata Manglaji and Bholeji Maharaj of Hans Foundation and Er. Narendra Singh Past President IEI Kolkata were guests of honour. The programme was attended by a large number of delegates, faculty from DBUU and corporate members of UKSC, Dehradun.

Continued from page 1

CHAIRMAN'S MESSAGE

During the above period the UKSC celebrated World Telecommunication Day on 17th May 2023, World Environment Day on 5th June 2023, World Yoga Day on 21st June 2023, World Habitat Day on 16th October 2023 beside Engineers Day on 15th September 2023.

On the occasion of Engineers Day Honourable Minister of Technical Education & Forest, Uttarakhand Government Shri Subodh Uniyal graced the celebration. Uttarakhand State Centre Dehradun felicitated its 12 Veteran Engineers high lighting their technical achievement in respective field of engineering during their life. The centre also awarded the Eminent Engineers awards to six distinguished Engineers who attained remarkable feet in service of Uttarakhand State and our country. I wish more & more engineers will make extra ordinary contribution in their areas of specialization and make our country proud.

Er. Dharm Chandra

ACHIVEMENTS AND ACCOLADES

1. Dr. H. L. Mandoria, Chairman, Pantnagar Local Centre of UKSC has been appointed as Director of Dr. A. P. J. Abdul Kalam Proudtyogiki Sansthan, Tanakpur (Uttarakhand).
2. Dr. Amit Agarwal, former Executive Committee member of UKSC has been appointed as Director of Proudtyogiki Sansthan, Gopeshwar, Chamoli (Uttarakhand).
3. Er. Sandeep Singhal, an active corporate member of UKSC, has been awarded Ph. D. degree by the University of Petroleum and Energy Studies, Dehradun. He is presently Managing Director of Uttarakhand Jal Vidyut Nigam Limited, Dehradun.

UKSC is proud of their achievement and wishes them success in every endeavour and a very bright future.

UTTARAKHAND STATE CENTRE IN NEWS

सिंघल को मिली पीएचडी की उपाधि

देहरादून। उत्तराखण्ड जलविद्युत निगम लिमिटेड (यूजेवीएनएल) के प्रबंध निदेशक संदीप सिंघल को यूनिवर्सिटी ऑफ पेट्रोलियम एंड दीक्षांत समारोह एनर्जी स्टडीज में राज्यपाल ने दीक्षांत में दी उपाधि समारोह में रा ज व पा ल लॉफ्टनेट जनरल गुरमीत सिंह (सेनि) ने पीएचडी की उपाधि प्रदान की। उन्हें यह उपाधि राज्य जलविद्युत विकास को गति प्रदान करने के लिए परियोजना प्रभावित परिवारों के साथ लाभ साझा करना के विषय पर शोध के लिए दी गई। संदीप सिंघल ने बताया कि उत्तराखण्ड के आर्थिक व संरचनात्मक विकास में जल विद्युत परियोजनाएं विशिष्ट भूमिका निभा रही हैं। परियोजनाओं के समय से पूर्ण होने से राज्य न केवल विद्युत के क्षेत्र में सशक्त होता है। साथ ही राज्य को राजस्व का लाभ भी मिलता है। परियोजनाओं के समय से निर्माण पूर्ण होने में स्थानीय तथा परियोजना प्रभावित जनता का

राजधानी | जलभारत मेल | 3

देहरादून, शुक्रवार, 21 जुलाई, 2023

दिल्ली में बाढ़ व जलभराव की समस्या के निदान हेतु हथिनी कुंड बैराज का निरीक्षण किया

देहरादून, संवाददाता। आपदा प्रबंधन एवं जलसंकटा प्रेरण दी इंस्टीट्यूशन ऑफ इंजीनियरिंग (डीएन) देहरादून के सदस्यों ने राजधानी दिल्ली में दिनांक 12 से 13 जुलाई 2023 को बाढ़ व जलभराव को समाधान का निदान हेतु हथिनी कुंड बैराज का निरीक्षण किया। इस बैराज से दो नहरें एक उत्तर प्रदेश के लिए पूर्ण यमुना नदी तथा दूसरी हरियाणा प्रदेश के लिए पश्चिमी यमुना नदी निकलती हैं। जिनके पानी को अवरुद्ध करने का प्रयास है उसे लेके हट्ट शेर पानी का निदान। यमुना नदी में कर दिया जाता है। इस बैराज को अधिकांश 1100 वर्ष की मान पर 7.77 लाख क्यूसेक जल के लिए परिकल्पना किया गया है। बैराज में डैम की भूति जल को संभाल कर दो नहरों अर्थात् उत्तर प्रदेश के लिए पूर्ण यमुना नदी परियोजना का निदान हेतु निरीक्षण किया गया।



दिनांक 11 जुलाई 2023 को अधिकांश जल के अवरुद्ध करने का प्रयास है उसे लेके हट्ट शेर पानी का निदान हेतु निरीक्षण किया गया।

जुलाई 2023 को उत्तराखण्ड जल विद्युत निगम के इंजीनियर बन्दी, निदेशक प्रोजेक्ट से टोस नदी पर बन रहे किशोर बांध की प्रगति के विषय में चर्चा की। इस समारोह का निदान किशोर बांध है। जल कटा नदी (दिनांक प्रदेस), गिरी नदी (दिनांक प्रदेस) टोस नदी (उत्तराखण्ड व हिमाचल प्रदेश) से मूल्य नदी (उत्तराखण्ड व हिमाचल प्रदेश) से आती है। परंतु टोस नदी पर प्रस्तावित किशोर बांध में जल को मजबूत करने का प्रयास है। इस बांध के निर्माण के लिए किशोर बांध निर्माण कार्यप्रारंभ का मजबूत हो गया है। परंतु इसमें अभी कच्चे और अधिकांश कार्य अभी शेष हैं। जल्द ही इस क्षेत्र में निदान हेतु निरीक्षण किया जाएगा।

जितनी भी दिशायामें बांध का निर्माण हो रहा है। जल कटा नदी (दिनांक प्रदेस), गिरी नदी (दिनांक प्रदेस) टोस नदी (उत्तराखण्ड व हिमाचल प्रदेश) से मूल्य नदी (उत्तराखण्ड व हिमाचल प्रदेश) से आती है। परंतु टोस नदी पर प्रस्तावित किशोर बांध में जल को मजबूत करने का प्रयास है। इस बांध के निर्माण के लिए किशोर बांध निर्माण कार्यप्रारंभ का मजबूत हो गया है। परंतु इसमें अभी कच्चे और अधिकांश कार्य अभी शेष हैं। जल्द ही इस क्षेत्र में निदान हेतु निरीक्षण किया जाएगा।

हरित-सतत विकास के लिए आगे आएं: कोशियारी

देहरादून, बरिष्ठ संवाददाता। महाराष्ट्र के पूर्व राज्यपाल भारत सिंह कोशियारी ने हरित और सतत विकास को नई प्रेरणा देने के लिए वैज्ञानिकों, इंजीनियरों और शोधार्थियों से आगे बढ़ने का आग्रह किया। उन्होंने कहा कि जलवायु परिवर्तन और पानी की कमी है, जिसका समाधान पुरे जलमयन को प्रोत्साहन देना है। अगली पीढ़ी को इसके प्रभाव से बचाने के लिए हमें आज से ही तैयारी करनी होगी। वे शनिवार को देवभूमि उत्तराखण्ड विधि के तीन दिनी अंतरराष्ट्रीय सम्मेलन में बतौर मुख्य अतिथि पहुंचे थे। महाराष्ट्र रोड स्थित इंस्टीट्यूट ऑफ इंजीनियरिंग में देवभूमि उत्तराखण्ड विधि के स्कूल ऑफ इंजीनियरिंग एंड कंप्यूटिंग में इंस्टीट्यूट ऑफ इंजीनियरिंग, डिजाइनर अवेयरनेस, पर्यावरण संरक्षण को ध्यान में रखते हुए विकास योजनाओं को अमल में लाने पर जोर दिया। उन्होंने कहा कि स्मार्ट तकनीकों को बढ़ावा देकर देश को कार्य करने देंगे। डीन डॉ. रितिका मेहरा, मिट्ठल के एमडी चैची प्यनी, यूजीवीएल के एमडी अनिल कुमार, यूजीवीएल के एमडी संदीप सिंघल ने भी विचार रखे।

छात्र-छात्राओं ने जानी ड्रोन तकनीक की बारीकियां

■ ग्राफिक एरा में ड्रोन टेक्नोलॉजी की आधुनिक प्रयोगशाला खुली
■ सहारा न्यूज ब्यूरो देहरादून।



प्रयोगशाला को देखते प्राध्यापक व विशेषज्ञ। आईओटी हाइवेयर और सेंसर शामिल हैं। छात्र-छात्राएं और शिक्षक ड्रोन की मदद से ग्रामीण क्षेत्रों में राहत पहुंचाने, जंगल को आग का पता लगाने समेत अनेक तकनीकों में कोशल हासिल कर सकेंगे। कार्यक्रम में एकरकेन एलएलपी में ड्रोन बेस्ड प्रोजेक्ट्स के निदेशक गोपी राज अम्बुला ने शिक्षकों व छात्र छात्राओं के साथ व्यावहारिक जानकारी साझा की। इस मौके पर डीन ऑफ अकेडेमिक्स डा.डीआर गोडकर, डीन ऑफ रिसर्च डा.भास्कर पंत, एचओडी डा.देवेश प्रताप सिंह, गरिमा शर्मा समेत अनेक लोग मौजूद थे।

नरेंद्र अध्यक्ष और सतीश सचिव बने

देहरादून। इंस्टीट्यूशन ऑफ इंजीनियर्स उत्तराखण्ड के नरेंद्र यादव को अध्यक्ष और सतीश कुमार को दो साल के लिए मानद सचिव चुना गया। दून में संगठन की चुनाव प्रक्रिया में वर्तमान कार्यकारिणी के 20 सदस्यों ने भाग लिया। पूर्व मुख्य अभियंता-सिंचाई रणवीर सिंह चौहान ने चुनाव प्रक्रिया पूरी कराई। इस मौके पर सुभाष चंद्र गोयल, आदित्य कुमार दिनकर, आशीष पांडे मौजूद थे।

किसाऊ बांध बनने से दूर होगी दिल्ली की दिक्कत

देहरादून, मुख्य संवाददाता। आपदा प्रबंधन एवं जागरूकता फोरम देहरादून के अध्यक्ष नरेंद्र यादव को अध्यक्ष और सतीश कुमार को दो साल के लिए मानद सचिव चुना गया। दून में संगठन की चुनाव प्रक्रिया में वर्तमान कार्यकारिणी के 20 सदस्यों ने भाग लिया। पूर्व मुख्य अभियंता-सिंचाई रणवीर सिंह चौहान ने चुनाव प्रक्रिया पूरी कराई। इस मौके पर सुभाष चंद्र गोयल, आदित्य कुमार दिनकर, आशीष पांडे मौजूद थे।

IEI CIVIL ENGINEERING LAB - A JEWEL IN THE CROWN

In 2015, The Institution of Engineers (India) Uttarakhand State Centre established a civil engineering laboratory- testament to our commitment to enhancing the quality of construction work in Uttarakhand. Under the able guidance of Er. Narendra Singh, Past President and council member of IEI, Kolkata. The lab commenced operations with a focus on concrete and soil testing. In May 2022, a road and Bitumen lab was added, further expanding its testing capabilities.

In May 2022, the lab expanded its testing capabilities with the inclusion of a road and Bitumen lab. This expansion was a pivotal moment broadening its scope and contributing to the overall improvement of construction practices. This dedication to excellence culminated in the prestigious inauguration of IEI Civil Engineering Lab on 22nd May 2022, graced by the Lt. Gen. (Rtd.) Gurmeet Singh, the Honorable Governor of Uttarakhand.

Continuing on its path of progress, it added a steel testing lab to its repertoire on 2nd September 2023. This significant step was marked by the inauguration ceremony led by the honorable Ex Governor of Maharashtra, Shri Bhagat Singh Koshyari Ji and attended by esteemed personalities such as Mata Manglaji and Bholeji Maharaj. Generous donation for a Universal Testing Machine played a crucial role in enabling the lab to continually enhance its testing capabilities. The Lab is equipped with various testing facilities & attempt is being made to develop it as the leading lab of Uttarakhand.

Under the visionary leadership of Dr. Prashant Agarwal, Director, the laboratory has excelled in areas such as mix design, material testing, and quality assurance. Accolades such as ISO: 9001:2015 certification and NABL accreditation in accordance with ISO/IEC 17025:2017 are a testament to the high standards maintained by the IEI Civil Engineering laboratory. Its comprehensive services extend to both government and private sector organizations, encompassing the testing of concrete, concrete ingredients, soil, and bituminous road construction.

The operation of the lab is guided by a technical committee consisting of experience technocrats who are domain experts in their own areas. The distinguish member of the committee at present are as follows:

1. Er NK Yadav (Former Chief Engineer, Uttarakhand Irrigation Department)
2. Er HK Upreti (Former Engineer- in- Chief, PWD)
3. Dr. Prashant Agarwal (Director, IEI Civil Engg Lab)
4. Er. Mukesh Mohan (Former Engineer- in- Chief, Uttarakhand Irrigation Department)
5. Er. Satish Kumar Chauhan (Former General Mangar, NHPC)
6. Er. Dharm Chandra (Former General Mangar, UPSEB)
7. Er. R V S Chauhan (Former Chief Engineer, Uttarakhand Irrigation Department)
8. Er. Pawan Kumar Goel (Former General Mangar, Jal Sansthan)
9. Dr. Amit Srivastava (Quality Manager, IEI Civil Engineering Lab)

The strength of the lab lies in offering site-specific optimum mix designs for various concrete types, complete facilities for non-destructive testing of structures and successful designs of concrete mixes up to M90 Grade. Looking ahead, the lab is poised to venture into chemical testing, thus further expanding its scope and contributing to the advancement of the field. The IEI Civil Engineering laboratory stands committed to excellence, innovation and continual improvement in the realm of construction testing and quality assurance.



IEI CIVIL ENGINEERING LABORATORY

(NABL Accredited and ISO 9001:2015 Certified Laboratory)

The Institution of Engineers (India)

UTTARAKHAND STATE CENTRE, DEHRADUN



TC 11527

The IEI Civil Engineering Laboratory is established in year 2015 to facilitate the public and private agencies involved in civil engineering construction work for required material testing leading to required quality assurance based on market demand and to be competitive in market Institute of Engineer joined hands with Advanced Engineering & Consultancy Services, Dehradun, who has highly qualified and experience professionals in the Quality Control & Quality Assurance field to run the laboratory.



Rebound Hammer (NDT)



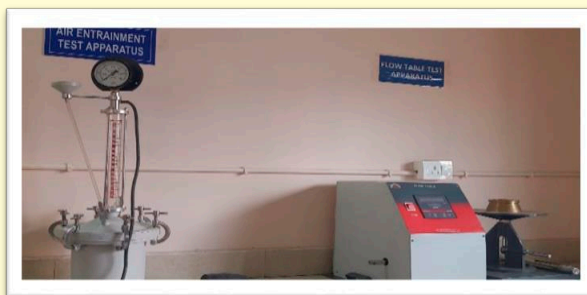
Universal Testing Machine

Services Offered

1. Testing of Bitumen and Soil
2. Testing of concrete and its ingredients
3. Economical Design of Concrete Mix, Normal and Permeable Concrete
4. QA/QC in building & Civil Engineering Construction
5. Rebound Hammer (Non Destructive Test)
6. Concrete Core Cutter (Non Destructive Test)
7. Non-Destructive Testing (NDT) of Concrete Structures
8. Steel Testing

Our Clients

THDC India Ltd, UJVNL Ltd, Uttarakhand Jal Sansthan
Hindcon Chemical Ltd, Peyjal Nigam, Graphic Era University



Air Entrainment Test Apparatus & Flow Table Test Apparatus



Concrete Core Cutter

APPEAL

It has been observed that mobile number, e-mail, mailing address of many Corporate Members of IEI are not registered / updated with the Institution till date. Due to non-availability of these details, Institution is not able to provide full range of its services to the members and members also lose the opportunity to participate in the Online Elections / Activities of the Institution.

All the Corporate Members are requested to inform their acquaintances to provide / update their contact phone no. and e-mail ID along with membership number at the earliest to : datamemb@ieindia.org or uttarakhandsc@ieindia.org or mobile no. 9412056431.

To increase the strength of members in UKSC all members are requested to mobilise fellow engineers to be part of IE(I).

“Each One, Bring One”

The Institution of Engineers (India)

Engineers Bhawan

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IEI

NEWS LETTER

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Narendra Singh, Past President
The Institution of Engineers (India)

Patron
Dharm Chandra
Chairman UKSC

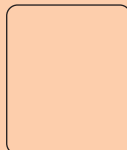
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