



Industry Meet

- The Civil Engineering Department hosted an Industry Meet in October 2023 that brought together representatives from various construction industries and the faculty members. This event aimed to foster collaboration between academia and industry for the betterment of students and the field of civil engineering.

- Electrical Department of Institute of Technology offered a training programme titled “Auto Electrical and Electronics” for non-electrical Engineers of Tata Motors Ltd.

- **National Seminar on “Parameter Estimation using State Estimation Techniques.”**



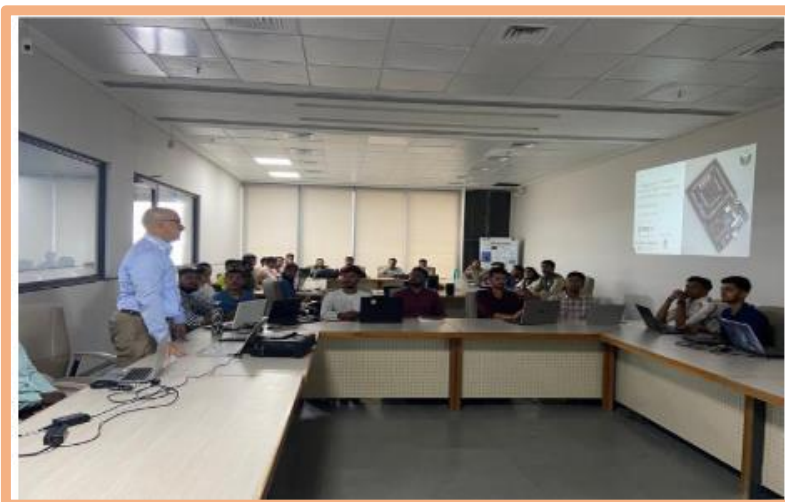
One day National Seminar on “Parameter Estimation using State Estimation Techniques.” was conducted by Prof. Sneha Soni for PhD, PG, UG students under the guidance of Dr.H.K.Patel and organized by Centre for Continuing Education (CCE), Nirma University, on 5th August 2023. In total 20 participants from PhD and UG students registered and benefitted from this National Seminar. .

This immersive and insightful workshop served as an exceptional platform, empowering participants to delve into the vast realms of State Estimation Techniques like Kalman Filter and Extended Kalman Filter with its implementation in MATLAB. The event not only fostered an enhanced understanding of state estimation implementation but also equipped attendees with research opportunities in this domain to excel in their academic pursuits and future professional endeavors. A resounding appreciation to all the enthusiastic participants and dedicated instructors whose unwavering commitment and active engagement made this workshop an extraordinary triumph



On August 5, 2023 Civil Engineering Department organized a one-day National Seminar on "Emerging Trends in Space Technology - Soil to Sky".

The Department of Civil Engineering organized a two-day Workshop on 'Digital Tools for Civil Engineering Applications' under Centre for Continuing Education (CCE) on September 16th and 30th 2023.



The Department of Electronics & Communication Engineering organised a Workshop on "RISC V Roadshow" at Nirma University campus on July 26, 2023



STTP on Artificial Intelligence (AI) Applications in Civil Engineering conducted by Civil Engineering Department



Two-week IST approved Short Term Training Programme (STTP) on “Artificial Intelligence (AI) Applications in Civil Engineering” was organized during 3rd July to 14th July 2023 under auspice of Internal Quality Assurance Cell (IQAC) Nirma University. The main objective of arranging STTP was to introduce faculty members about various AI techniques and their applications for solving problems of Civil Engineering domain, which in turn develop the computer literacy of Civil Engineering graduates.

STTP on Wheels "Recent Trends and Industrial Practices in Electrical Engineering conducted by Electrical Engineering Department during July 03 – July 14 2023

The STTP was envisaged towards industrial exposure related to electrical engineering and upgrading the participants with recent development and advancement of industrial practices relevant to electric engineering. The objective of the STTP were:

- To give industrial exposure related to electrical engineering
- To upgrade the participants with recent development and advancement of industrial practices relevant to electric engineering
- To enhance academia – industry relations for future development in-turn of student internship and project placement.





Deep Learning: Concepts to Deployment conducted by CSE Department during 3rd-15th July, 2023.



The STTP titled "Deep Learning: Concepts to Deployment" spanned over 10 working days, running from July 3 to July 15, 2023. It was conducted under the auspices of the Computer Science and Engineering Department. The event had been collaboratively organized with the support of ISTE, aiming to provide comprehensive insights into deep learning methodologies and their practical deployment. The workshop successfully bridged the theoretical foundations of deep learning with hands-on applications, offering participants a holistic understanding of this cutting-edge technology.

The Department of Electronics & Communication Engineering organized an STTP on "Machine Learning for Electronics Engineers" at Nirma University from July 03, 2023 to July 14, 2023.

A two-week short term training program was conducted during July 3-14, 2023 by Electronics and Communication Engineering Department, Institute of Technology, Nirma University under the auspices of IQAC, Nirma University. The program was approved by ISTE. It was attended by 14 participants. The program was inaugurated at the hands of Dr. Narottam Sahoo, Advisor and Member Secretary, GUJCOST on 3rd July 2023





National level workshop on 'Variable Frequency Drive- VFD A800'

The one-day national level workshop on 'Variable Frequency Drive- VFD A800' was organized by the ATC center of Mitsubishi Electric India Pvt. Ltd. on August 5, 2023. Prof. Alpesh Patel worked as the coordinator of the workshop. Dr. H K Patel and Dr. Sandip Mehta has conducted sessions in the workshop.

National level workshop on 'Advanced Programmable Logic Controllers'



One-week National level workshop on 'Advanced Programmable Logic Controllers' was organized by the Electronics and Instrumentation Engineering department of the Institute of Technology, Nirma University from July 10,2023 to July 14,2023.

Participants performed the PLC programming using 'Structure Text', 'Function Block Diagram', and 'Sequential Flow Charts'. Mr. Andrew Suwartik, an Expert from Mitsubishi Electric India Pvt. Ltd. delivered a session in the workshop.



Prof. Sarel Lavy, Professor at Texas A&M University, USA delivered expert lecture on facility management on September 18-19, 2023

- Mr. Sarvesh Swarup, Former Deputy Director General, Ministry of Commerce and Industry, Govt of India at present at Ellicott City, Maryland, USA delivered expert lecture on project management on August 25, 2023
- Dr. Raju Narayana Swamy, IAS, Principal Secretary of the Government of Kerala, conducted a session focusing on "Cyber Security, Cyber Laws, and Quantum Computing" on September 26, 2023
- Mr. Mukul Kumar, Engineer, Cader Design systems, Delhi delivered an expert talk titled "Advanced Device modeling" on November 08, 2023
- Dr. Tarun Kumar Rawat, Associate Professor, NSUT, New Delhi delivered an expert talk titled "Applications of Fourier Transform" on November 08, 2023



Ms. Nayana Patel, Senior Firmware Engineer, Intel, Bangalore delivered an expert talk titled "Embedded Systems Programming" on November 07, 2023

- Shri Kaushal Jani, Head, Digital and Smart Factory Support, Ecubix, Industry 4.0 Products and Services, Ahmedabad delivered an expert talk titled "IoT and Industry 4.0" on November 06, 2023

Yash Mewada, Sr Applications Engineer, Infineon Technologies, Bangalore delivered an expert talk titled "Why are FCC/EU regulations important for Electronic System Design engineers?" on November 06, 2023



Dr Naran M Pindoria, Associate Professor, IIT Gandhinagar delivered an expert talk titled "Smart Grid" on November 02, 2023



Prof. Dr. S. V. Kulkarni, Institute Chair Professor, Dept. of Electrical Engineering, IIT, Bombay delivered an expert talk titled “Finite Element Analysis in Electrical Engineering” on October 30, 2023.

Dr. Tapan Mankodi, Assistant Professor IIT, Guwahati delivered an expert talk titled “Thermal Protection Systems in Re-entry Vehicles” on October 26, 2023.



Mr. Aashutosh Vyas, President, ISHRAE Ahmedabad Chapter delivered an expert talk on titled “Career Opportunities in HVAC & R Field and ISHRAE activities” on October 25, 2023.

Mr. Anal Salshingikar, National Forensic Sciences University, Gandhinagar, conducted a session titled "Cyber Hygiene" On October 23, 2023



Mr. Nilesh Pandya, Director, Electrical Testing Center, Vadodara, Gujarat delivered an expert talk titled “Basic acceptance norms for Electrical Items through standards and respective testing” and “Managing the Quality of Industrial Environment” on October 20, 2023.

- Mr. Rimit Shah, ASIC Design Engineer, Micron Hyderabad delivered an expert talk title “Industrial Applications of FPGAs: Scenario, Trends, and Insight” on October 19, 2023

Mr. Umesh Morey, Director & Co-Founder, Engimates Resources & Energy Pvt Ltd, Vadodara, has delivered an expert talk titled “Refinery configuration, Crude and Product specifications” on October 17, 2023.



Mr. Nikhil Sonawane, Engineer, MathWorks, Pune delivered an expert talk titled “Applications of MATLAB for Mechanical, Civil, Chemical, and Electrical Engineering branches” on October 13, 2023

Mr. Karan Shah, Applied AI Research Scientist, Intel, Bangalore delivered an expert talk titled “Industrial requirements for Image Processing issues and applications” on October 13, 2023





Ms. Khushnuma Jhunjunwala, CPU Validation Engineer, Qualcomm, Bangalore delivered an expert talk titled "Processor Design Cycle" on October 06, 2023

Mr. Ravi Patel, Design Engineer, Intel, Bangalore delivered an expert talk titled "Advanced Topics in Verilog" on October 06, 2023



- Mr. Paritosh Raval, IOS LEAD at Apexon Ahmedabad, delivered expert talk titled 'iOS Architecture and its practical applications' On September 30, 2023

Mr. Pankaj Kumar, Vice President, Strategic Sourcing and Special Project, PI Industries delivered an expert talk titled "Supply Chain Management" on September 29, 2023



- Mr. Jasmin Panchal, Head, HR TATA Motors Ltd, Ahmedabad delivered an expert talk titled "Opportunity for Mechanical Engineers and the Industrial" on September 27, 2023



Dr S.S Pathan, Associate Professor Mechanical Engg. Dept. L D College of Engineering, Ahmadabad, delivered an expert talk titled "Vibration Control Strategies" on September 26, 2023

Mr Rakesh Tiwari, Retired Head, Essar Power, Jamnagar delivered an expert talk titled "Opportunities and Future Role of Engineers in Indian Power sector, and practical aspects of a Thermal Power Plant" on September 25, 2023



Mr. Raghav Mehta, McGill University delivered an expert talk titled "Explainable AI and its Applications in Healthcare" on September 22, 2023

Shivang Bhagat, Healthark Insights delivered an expert talk titled 'crafting impactful presentations, providing insights into the art of preparing compelling and effective presentations' on September 22, 2023



- Mr. Kumar Vidhani, Scientist and C.T.O. of Research & Development, TCS Research, TCS delivered an expert talk titled 'Dahizhack Solutions, delivered an expert talk titled "Dark Web and Cyber Security" on September 21, 2023



Ms. Sonal Desai, Ergo Energy LLP Energy & Sustainability Solution Provider, Certified Energy Auditor and Green Building Consultant, delivered an expert talk titled “Energy saving in Compressor and HVAC System and Energy Modelling” on September 14, 2023

Mr. Yagnik Suthar, Senior Software Engineer at Simform, delivered an expert talk titled "Building iOS Apps: A Beginner's Guide to Swift and Xcode" on September 14, 2023



Mr. R. D. Chauhan, Ex. Addl. General Manager (Simulator) NTPC Ltd. delivered an expert talk titled “Operation and maintenance of Thermal Power Plant” on September 6, 2023.

Mr. Dhanesh Kumar, Indian Oil Corporation Limited delivered lecture titled “Road Construction Technology and Usage of Bitumen” on September 05, 2023.



Mr. Dipesh Panchal, Physical Design Engineer, eInfochips delivered an expert talk titled “Digital VLSI Design with cadence tool” and “Working with VLSI Physical Design Algorithms” on August 19, 2023

Prof. S.B.Soni, Retired professor, L.D. Engineering College, Ahmedabad delivered an expert talk titled “Design of material handling equipment” on August 09, 2023.

Shri Nilesh M. Desai, Director SAC, Ahmedabad delivered talk titled “India's Moon Mission: Chandrayaan-3” on August 05, 2023



Dr. Abhijit Chakraborty, PRL, Ahmedabad delivered expert lecture titled “Design Aspects of 2.5m diameter Ground Telescope at Guru Shikhar, Mount Abu” on August 05, 2023.

Capt. Dhruven Bhatt, Senior First Officer Boeing 787 Dreamliner, Qatar Airways delivered an expert talk titled “Opportunities and Career Avenues for Engineers in Aviation Sector” on August 1, 2023



Dr. Himanshu Desai, a psychiatrist, delivered a lecture titled ‘the significance of mental health’ on August 1, 2023



Ms. Surabhi Jain, Manager, Technical Services, Wacker Chemie India Pvt. Ltd., Mumbai, delivered an expert talk titled "Significance and Application of Polymer (VAE) in industries" on July 28, 2023.

Mr. Japen Gor, Director Gor Renewable, delivered an expert talk titled "Overview on Solar cell" on July 18, 2023.



Mr. Sandeep Mathur, Senior Consultant, Construction & Building Material, Ahmedabad delivered lecture titled "Role of Civil Engineer at Construction Site" on July 18, 2023

Ms. Binita Parikh, Google-certified Trainer, delivered an expert talk titled "Digital Persona in Professional World" on July 17, 2023



Shri Hrishikesh Dasa, Youth Counselor, Hare Krishna Mandir, delivered an expert talk titled "Finding Purpose and Passion" & "Art of Mind Control" on July 17, 2023.

- Mr. Sunny Wadhvaniya , Head of Operations, Institute of Defence Studies and Research, Gujarat University delivered an expert talk titled "Defence as a Career", July 17, 2023.

Dr. Nirali Mehta, Founder & CEO at PHARMA - STATS, delivered an expert talk titled "Data Science application in pharma", July 17, 2023



Ms. Manisha Pathak, Founder of "Rising Souls" delivered an expert talk titled "How to balance professional life and personal life and work culture", July 17, 2023.

Mr. Devashish Goswami, Ex group Director, SAC, ISRO delivered an expert talk titled "Robotics and Research Opportunities", July 17, 2023





Dr. Rohit Thanki , Chief Technological Officer and Data Scientist, KRiAN GmbH, Wolfsburg, Lower Saxony, Germany delivered an expert talk titled “Hyper-parameters tuning, Image segmentation and classification ” & “Deep Learning Architectures, Convolution Neural Network” on July 17, 2023.



Prof. M. C. Deo IIT Bombay delivered expert lecture titled ‘Introduction and Applications of ANN / SVR – LWPR’ on July 11, 2023.



Prof. Y. M. Desai IIT Bombay delivered expert talk titled “Numerical Methods & AI” on July 10, 2023



Prof. Gaurav Srivastava IIT Gandhinagar delivered expert talk titled “Computer Programming using Python” on July 05, 2023.





Research Article

Use of Recycled C&D waste, Fly Ash, Bottom Ash, Dredged Marine Sand and Gypsum for Construction of Sustainable Salt Pan Beds for Enhancement of Salt Productivity through Prevention of Brine Percolation



A DST funded Project was carried out by Collaboration of CSIR-CSMCRI & Nirma University. Dr Sonal Thakkar and Dr Urmil Dave from Nirma University and Dr Bhoomi Andharia and Dr Arvind Kumar from CSIR-CSMCRI, Bhavanagar were the members of the project team. The objective of the project was to utilize generated waste in concrete and increase the yield of salt as well as reduce the health hazard of the salt workers.

India is the third largest producer of salt 30 Million MT (~10 % of world production) after China (22.7%) and USA (16.5%). Annual salt demand in India is rising by 5-6%, Projected demand by 2022: 35-40 Million MT. Salt production per acre area is approximately 50 tons. Production can be increased to 60-70 tons per acre of land through the proposed intervention of technology. Presently salt harvesting is done by manual compaction of soil by foot or by static roller. Therefore there is brine losses and health hazards. The main objective of the project was to design an economical concrete mix for salt-pan bed which is sustainable, made from locally available waste material and has good durability for specific field conditions to prevent brine losses and to support mechanization in salt harvesting.



In order to make sustainable salt beds, alkali-activated concrete was developed using industrial waste like fly ash, ground granulated blast furnace slag, waste gypsum, recycled coarse aggregate, dredged marine sand and sodium-based activators. Various trial mixtures were carried out to evaluate the effect of various combinations on the mechanical properties of concrete. Figure 1, shows few of the cast specimens. After significant number of trials, it was possible to get desired compressive strength of M25 grade concrete along with flexural strength. Figure 2 shows the graph of compressive strength of three alkali-activated concrete(AAC) mixes.

Figure 1:
Casted Specimens

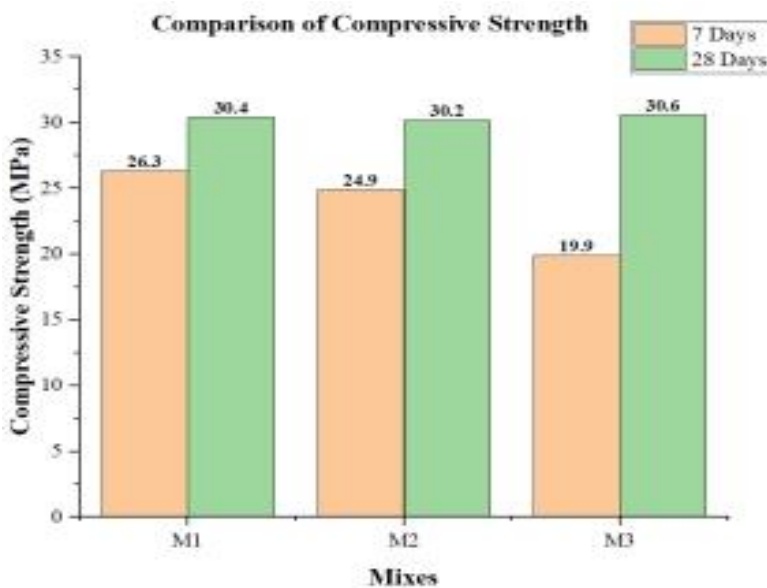


Figure 2:
Compressive Strength of AAC



Fig. 6 Construction of Ponds

(a) Leveling



(b) Bricks wall of pond







(c) Plastering



In order, to validate the results at laboratory scale, four ponds were created and all the ponds were filled with salt water and brine losses are measured in actual conditions. Tests are also being carried out to measure durability parameters of the developed concrete to assess the life cycle of the concrete into actual salt pans.



PhD Completed

	Name of Faculty	Title of the Thesis	Name of the Guide	Name of awarding Institute /University
	Prof. Anand Bhatt	Experimental Investigations on Wickless and Wicked Multi-branch Heat Pipe in Different Orientations	Dr R.N.Patel Dr S.V.Jain	Institute of Technology, Nirma University
	Prof. Hiren Prajapati	Synthesis and characterization of magnetorheological fluid for design of double coil force actuator	Dr Absar Lakdawala	Institute of Technology, Nirma University
	Prof. Usha Patel	Active learning based Hyperspectral image classification	Dr. Vibha Patel	Gujarat Technological University
	Prof. Harsh Kapadia	Advanced imaging techniques for concrete damage characterization	Dr. J.B.Patel and Dr.P.V.Patel	Institute of Technology, Nirma University



New Faculty Joining

Department	Name of the faculty	Qualifying Degree
Civil Engineering	Prof. Indrajeet Kumar	Ph.D.
Electronics & Communications	Prof. Khushboo Sinha	Ph.D.
Electronics & Communications	Prof. Krupa Purohit	Ph.D.
Electronics & Communications	Prof. Amrin Kagdi	Ph.D.
Electronics & Communications	Prof. Ramya Nair	Ph.D.

During the period institute has an ongoing total 43 externally as well as internally funded research projects worth of Rs. 406.07 lacs.

[Research Projects - Click Here](#)

[Publications - Click Here](#)

During the tenure faculty members of the institute has published more than 109 international publications in high-impacted journals.

The Institute encourages faculty members to attend national and international conferences.

[Conference Attended - Click Here](#)