

CONTENTS

MoU Signed by Institute	02
Rankings	02
Research Activities	03
Article from Alumni	04
Interaction with Outside world	04
Innovative Initiatives	06
Expert Lecture	07
Faculty Corner	12
Awards	14
Funded Projects	14
Research Publications	14
Alumni Corner	15
Students' Corner	16
Sports Activities	19

MESSAGE FROM THE DIRECTOR

Dear Friends,

We are coming out of one of the most traumatic periods of our lives, the pandemic of COVID 19. Since March 2020, we have been braving the virus and employing various strategies to cope with it. It is noteworthy that during such tiring times, the Institute of Technology was functioning in full gear. Teaching-Learning assessment was regular without any compromise with the quality. We have adopted, adapted and have harnessed the technology to our benefit. The institute was brimming with activities, expert talks and research activities in these unexpected times too. The virtual world enabled us to bring world-class experts on our screen to share their insights.

This newsletter will take you to the last few months of our activities. We are now looking forward to 2022 to transit into an advanced new normal environment and launch new impactful initiatives and achieve greater heights.

We invite you to be a part of our journey in providing quality and ethical engineering education.

With an open invitation to visit whenever you are in the vicinity,

Happy reading.



Published by:

Editorial Committee, Institute of
Technology, Nirma University

MOU SIGNED BY INSTITUTE



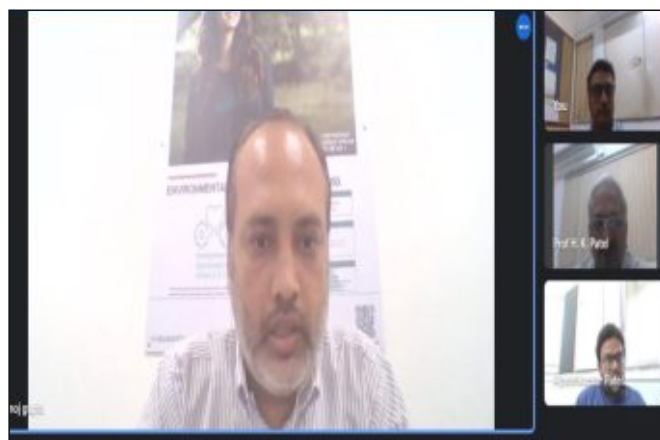
MoU signed with elInfochips, Ahmedabad on February 18, 2021



MoU signed with JK Lakshmi Cement Limited on February 17, 2021



MoU signed with Secure Meters Ltd., Udaipur on July 08, 2021



MoU signed with Mitsubishi Electric India Private Ltd. on January 22, 2021.

- Non-binding MoU for Collaborative Business Engagement with NVIDIA Corporation, CA. signed on July 02, 2021

RANKINGS

- The Institute of Technology, Nirma University is placed at 11th position in overall ranking in Times of India Ranking 2021 under the category “Top 175 Engineering Institute Rankings 2021”, 4th under “Top 125 Private Engineering Institute Rankings 2021”, and 2nd in West Zone.
- According to 'The Week-Hansa Research Survey-2021' ITNU is ranked 41st among Engineering Colleges in India and 16th among Private Engineering Colleges in India.
- The Institute of Technology is ranked 15th by India Today Special issue 25th Annual Survey of 'The Best Colleges of India'- Engineering (Private).
- According to CSR - GHRDC Engineering Colleges Survey 2021, Institute of Technology was ranked 4th in top leading engineering colleges of super excellence. It was ranked 1st in Gujarat, 5th in 'Top 25 Engineering Colleges Ranked by Faculty, Research, Consultancy, EDP & other programmes', and 4th in 'Top 25 Engineering Colleges Ranked by Placements, USP, Social Responsibility, Networking & Industry Interface'.

RESEARCH ACTIVITIES

Current trends in recycle and reuse of waste streams from stainless steel Industries

*Dr Jayesh Ruparelia Professor Chemical Engineering Department &
Dr Urmil Dave Professor and Head Civil Engineering Department*



Currently across the globe, the steel sector is one of the fastest growing sectors of the manufacturing industry. Usually in the stainless steel making process, lots of wastes are generated at the end of the process.

As reported in literature, approximately one tonne of stainless steel wastes was originated when producing three tonnes of stainless steel. By and large, this represents critical problem of quantity as well as toxic ingredients, such as the chromium, lead, nickel, cadmium that could pose both occupational and environmental health threats.

Stainless steel Industries carries out hot working processes and acid pickling processes, where Oxide wastes (Mill scale) and ETP sludge forms as solid waste. As there are limited options to avoid these processes likely to last till Steels are being produced. Mill scale is in form of Metal oxides, while sludge is of Metal hydroxides. The management of the stainless wastes and recover the valuable metals from them are very important at the present period not only for the resource and economy but also for the environment.

Currently researchers are working on converting both solid wastes, Mill scale and Sludge in to Metallic form SS-DRI (Stainless steel Direct Reduced Iron). This metallic form can be again used as feedstock / scrap into melting furnaces to produce the metal. Thus, dumping of solid waste is prevented at large and conservation of resources. It is important to develop a process which may result into prevention of losses to industry, reduction in pollution load and add employment. This will aid socio-economic upliftment, pollution abatement, waste treatment and management solution in Stainless steel sector of Industry.



ARTICLE FROM ALUMNI

Global Innovation Megatrends

Rachit Oza, Consultant (Marketing & Projects), Disan Food Solutions Inc (Alumni of Chemical Engineering Department)



Three megatrends underlie much of the change we have witnessed over the last few decades, which will continue to shape the world economy.

The first megatrend is the shift from trade-in-goods to trade-in activities. Beginning several decades ago but accelerating rapidly over the last decade, products and services are increasingly emerging from global value chains (GVCs) geographically dispersed around the globe. These GVCs are orchestrated, in the main, by multinational enterprises (MNEs) and increasingly disaggregated and fine-sliced into narrow, highly specific activities that are undertaken in economic clusters. These limited activities produce intermediates (and not finished goods or services), and these compose the vast majority of all international trade today.

The second megatrend is the rise of knowledge-intensive intangibles. Value is rapidly migrating out of tangible goods and services that are becoming commoditised and into the soft intangibles that encase them. These intangibles arise from specialised, upstream knowledge (R & D, patents, inimitable organisational routines, software, training) and downstream knowledge (brands, trademarks, customer service) activities. This migration of value has dramatically magnified the importance of innovation, concomitantly shortening technology lifecycles.

The third megatrend is the rise of emerging markets. The number of locations where the highly specific GVC activities can be performed has ballooned over the last two decades. A long list of cluster locations in Asia and South America and even some parts of Africa has become an integral part of GVCs. These locations are tightly woven into the global economy and give rise to perceptions of “flatness” perceived by many lay observers.


INTERACTION WITH OUTSIDE WORLD

The Department of Computer Science and Engineering, Institute of Technology, Nirma University organized a GUJCOST-sponsored one-week International Short Term Training Programme (STTP) in ONLINE mode on “Blockchain Technology, Research Avenues, and its applications” from 12th -17th July 2021.

Centre of Excellence in Data Science, CSE Department organized a national level online Hackathon (MINEd) from February 26-28, 2021 in collaboration with SUNY Binghamton University, USA.

Nirma University ACM Student Chapter organized ‘Research Wave’, a series of distinguished talks delivered by various international speakers in the emerging computer science fields such as AR/VR, Data Science, and Human-Computer Interaction from February 22 to 27, 2021. This year the event had Dr. Houbing Song, Prof Anthony Steed, Ms. Geeta Chauhan, and Prof Mark Billinghurst as the speakers.

A two day e-conference from 24-25 July, 2021 on “Recent Innovation in Mechanical Engineering, RIME 2021”, was organized by the Mechanical Engineering Students Association, MESA of the Department of Mechanical Engineering. Mr Rajesh Sampat, COO, InspirOn Engineering Pvt Ltd graced the inauguration as chief guest. Research papers on ‘Using plastics as an alternative fuel in boilers’, and ‘Automatic emergency braking system for 4 wheel vehicles’ bagged cash awards and were adjudged as the Best Papers.



The Department of Electronics and Communication Engineering organized a national conference sponsored by GUJCOST on, “Advancement in Communication, Electronics, Computers, and Automation Technology (ACECAT-21)” from February 12–13, 2021.

On January 19, 2021 Prof. Chetan Solanki, the founder of Energy Swaraj Foundation displayed his Solar Bus in ITNU campus. He also demonstrated solar based efficient products as an alternative to fossil fuel based equipment.

The Civil Engineering Department of ITNU organized a Professional Development Course on Building Engineering–Construction, Waterproofing, Maintenance and Repairs for Managers of Pidilite Industries Ltd, Mumbai from October 14, 2020 to December 04, 2020. Sessions for Module-2 commenced from January 05, 2021 to April 16, 2021.

A Two-Day National Webinar on “Etiquettes of Placement, Higher Studies & Research (EoPHR)” was organized from April 16-17, 2021 on the WebEx platform. This webinar was partially funded by the Gujarat Council on Science and Technology (GUJCOST). More than 104 participants from different regions and branches of engineering participated.

A One-Week National Level Short Term Training Program (STTP) was organised by the Electronics and Communication Engineering Department on ‘System on Chip Design: Trends and Tools’ from January 4 to 8, 2021. This STTP was sponsored by GUJCOST. Experts from industries like NVIDIA Bangalore, Coreel Technology Bangalore, Mathworks SAC-ISRO, Xilinx Hyderabad, einfochip Ahmedabad, Infineon, Bangalore and Academic Institutes like DAICT, Gandhinagar conducted the sessions.

The Department of Civil Engineering in association with the Department of Electrical Engineering has organized a Two-Day Online Workshop on “Essentials of Online Teaching” on June 29 and 30, 2021. All the sessions were delivered by renowned and eminent speakers from various well known institutions working in the area of educational technology.

Electronics and Communication student’s organization (ECO) organized an event “KHOJ-innovative, creative, and artistic”. The events included painting, photography, articles, poetry, and short stories. SPECTRUM – Volume 2 Issue 2 featured the winners of the programme.

The Department of Electronics and Communication Engineering organized a lecture series on ‘Computer Vision, Machine Learning and Robotics’. Dr Samarth Brahmhatt, Post-Doc in the Intel Intelligent Systems Lab, USA, and alumnus of Nirma University conducted six sessions from June-July, 2021.

The Electronics and Communication Engineering Department of the Institute of Technology, Nirma University organised a one week National Level Faculty Development Program (FDP) on “Internet of Things (IoT) for Agriculture” sponsored by AICTE ATAL Academy from July 19-23, 2021. Dr Ashutosh Dutta from Johns Hopkins University, USA delivered the keynote address and Prof. T.G. Sitharam, Director, IIT Guwahati addressed the participants in the central inaugural function. The sessions were conducted by national as well as international experts from CDAC,SAC-ISRO, INTEL, NASSCOM, Mathworks, NPCIL-BARC, einfochips, HK Automation, Robert Bosch, as well as academicians from IIM, University of Mexico, Kurukshetra University and Nirma University.

An online lecture series on IoT from March27 to April 24, 2021 (every Saturday) from 10:30 am to 12:30 pm by Dr Zhao Liang, Associate Professor, School of Computer Science Shenyang Aerospace University (SAU), China was conducted.

INNOVATIVE INITIATIVES

(Educational initiatives/ Social Welfare initiatives)

The Department of Civil Engineering, Institute of Technology, Nirma University organized a lecture Series in “Water Resources & Irrigation Engineering”. The sessions were delivered by Dr Ramesh Teegavarapu, professor, Graduate Program director & coordinator in the Department of Civil, Environmental and Geomatics department at Florida Atlantic University (FAU), Boca Raton, Florida, USA and founder and leader of the Hydro systems Research Laboratory (HRL). Total 5 sessions held in February and March, 2021 covered were Unit Hydrograph theory and its applications, Basics of River Engineering, Water Requirements of Crops and Irrigation Engineering


The Department of Civil Engineering carried out the level survey of Nirma University Campus for the IGBC certification green campus on June 14-16, 2021. The aim of the level survey work was to analyse water runoff due to rainfall in the entire university campus. One permanent benchmark (reference point) was constructed near the stage of dome ground.

The Department of Electronics & Communication Engineering organized an Orientation Programme for B.Tech. Semester III, V, and VII students on July 22, 2021. The various sessions were conducted by renowned external experts and alumni as Dr Avinash Nagraj, Vice President, Product Management, Jackson Vision Pvt. Ltd., Ahmedabad, Mr Rahul Sangavi, Entrepreneur, Independent Consultant, Doctoral Candidate at IIMA, Dr Parth Vaishnav, Consultant Psychiatrist & Deaddiction Expert, Mr Bharat Goyal, Patent Officer, Delhi

The Department of Electronics and Communication Engineering organized Collaborative Teaching on, ‘Neural Networks’ for the students of the B.Tech. Semester VI (EC) and M.Tech. Semester II (EC, ES). Five sessions were conducted by Dr Xingquan Zhu, Professor, Department of Computer and Electrical Engineering and Computer Science, Florida Atlantic University.

The Department of Electronics & Communication Engineering organized Collaborative teaching in the course of 2EC601–Computer Architecture on “Single and Multi-Cycle Datapath” for the students of the Semester VI. Nine sessions were conducted by the foreign expert Prof. (Dr) Arun Somani, Associate Dean for Research, College of Engineering, Iowa State University, USA in the month of March-April, 2021.





The Department of Electronics and Communication Engineering organized Collaborative Teaching on ‘Real-Time Operating Systems (RTOS)’ for the students of the B. Tech. Semester-VI (EC) and M.Tech. Semester-II (EC, ES). Eight sessions were conducted by the industry expert Mr Manoj Parmar, Program Director–AIShield at Robert Bosch Engineering and Business Solutions Private Limited, Bangalore.

The Department of Chemical Engineering arranged a series of lectures for students of Semester III, V and VII on July 22 and 23, 2021 as a part of Orientation Program. The different topics covered in the lectures were: ‘5 Factors of Success’ by Shri Hrishikesh Karunamaya Das; ‘How Core Remained Core’ by Ms. Keshu Lakhotiya, HUL; ‘Total Loss Control and Risk Management’ by Dr H. S. Purohit (NASA Fire Tech.); ‘Electric Vehicles and Batteries’ by Dr Sanjay Patel (HOD); ‘Positing yourself for a Top Job’ by Mr Karan Shah, Krishna Enterprise; and ‘9 S for Success’ by Mr Ankit Joshipura.

Dr. Henry Hong-Ning Dai, Associate Professor, Faculty of Information Technology, Macau University of Science and Technology (MUST), Macau, Taiwan was invited to teach a few topics from the Blockchain Technology course. Total 10 hours of sessions between March 27, 2021 and to April 24, 2021 were delivered.


EXPERT LECTURE

conducted during JANUARY to JULY 2021

Every department of the institute organizes expert lecture sessions for the respective courses being taught during the term as well as for imparting additional knowledge in the respective domain. During the period of January 2021 to July 2021 total 73 expert lectures were organized.

INTERNATIONAL EXPERTS


1. Mr. Darshil Patel, PhD Scholar, State University of New York, Buffalo, USA delivered an expert talk on **“Significance of Inverse Design Methods and Artificial Intelligence (AI) Techniques to Improve Traditional Design Approaches”** on May 1, 2021.
2. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“Bayesian Network”** on May 1, 2021.
3. Dr. Sanjay Kumar Shukla, School of Engineering, Edith Cowan University, Perth, Australia delivered an expert talk on **“Shear Strength of Cohesive and non-Cohesive Soil”** on April 27, 2021.
4. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“MS Project Software”** on April 24, 2021.
5. Dr. Sanjay Kumar Shukla, School of Engineering, Edith Cowan University, Perth, Australia delivered an expert talk on **“Shear Strength Parameters and Their basic Concepts”** on April 20, 2021.
6. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“Bayesian Network”** on April 19, 2021.
7. Dr Yash Shukla, Technical Director, CARBSE, CEPT University delivered an expert talk on **“Cooling Load Calculation”** on April 19, 2021.


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8. Dr Anna Vizziello, Senior Research Fellow at the University of Pavia, Lombardy, Italy delivered an expert talk on **“A New Frontier for Telecommunications: Intra-Body Network”** on April 17, 2021.
 9. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“Fuzzy Logic”** on April 17, 2021.
 10. Mr. Kaizad Engineer, Director, USTHA, Infinity Solutions Pvt Ltd., delivered an expert talk on **“Case Study of Retrofitting of Various type of RC Structures”** on April 15, 2021.
 11. Dr. Sanjay Kumar Shukla, School of Engineering, Edith Cowan University, Perth, Australia delivered an expert talk on **“Flow Net”** on April 13, 2021.
 12. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“Lean Construction”** on April 12, 2021.
 13. Prof. Deepak Sharma, Associate Professor, Department of Civil and Environmental Engineering, California State University, USA delivered an expert talk on **“MS Project”** on April 3, 2021.
 14. Dr. Sanjay Kumar Shukla, Founding Editor-in-Chief, International Journal of Geosynthetics and Ground Engineering, Founding Research Group Leader, Geotechnical and Geo-environmental engineering, School of Engineering, Edith Cowan University, Perth, Australia, and Adjunct Professor, Civil engineering Department, Nirma University delivered an expert talk on **“Soil Water Properties and Quick Conditions”** on March 30, 2021.
 15. Dr. Sanjay Kumar Shukla, Founding Editor-in-Chief, International Journal of Geosynthetics and Ground Engineering, Founding Research Group Leader, Geotechnical and Geo-environmental engineering, School of Engineering, Edith Cowan University, Perth, Australia, and Adjunct Professor, Civil engineering Department, Nirma University delivered an expert talk on **“Laboratory Measurement of Permeability”** on March 23, 2021.
 16. Dr. Neeraj Buch, Professor and Chairperson, Department of Civil & Environmental Engineering, Michigan State University, Michigan, USA delivered an expert talk on **“Design of Flexible and Rigid Pavements”** on March 16, 2021.
 17. Dr. Neeraj Buch, Professor and Chairperson, Department of Civil & Environmental Engineering, Michigan State University, Michigan, USA delivered an expert talk on **“Stresses in Rigid Pavements”** on March 12, 2021.
 18. Mr Jignesh Panchal, ASIC/FPGA Verification Engineer, Arm, Sweden delivered an expert talk on **“SOC Verification”** on March 12, 2021.
 19. Dr. Neeraj Buch, Professor and Chairperson, Department of Civil & Environmental Engineering, Michigan State University, Michigan, USA delivered an expert talk on **“Stresses in Flexible Pavements”** on March 9, 2021.
 20. Dr. Ramesh Teegavarapu, Professor, graduate program director & coordinator, Department of Civil, Environmental and Geomatics, Florida Atlantic University (FAU), Boca Raton, Florida delivered an expert talk on **“Irrigation Engineering”** on March 8, 2021.

21. Dr. Ramesh Teegavarapu, Professor, graduate program director & coordinator, Department of Civil, Environmental and Geomatics, Florida Atlantic University (FAU), Boca Raton, Florida delivered an expert talk on **“Irrigation Engineering”** on March 8, 2021.
22. Dr. Neeraj Buch, Professor and Chairperson, Department of Civil & Environmental Engineering, Michigan State University, Michigan, USA delivered an expert talk on **“Factors Affecting Performance of Various Types of Pavements”** on March 5, 2021.
23. Dr. Ramesh Teegavarapu, Professor, graduate program director & coordinator, Department of Civil, Environmental and Geomatics, Florida Atlantic University (FAU), Boca Raton, Florida delivered an expert talk on **“Water Requirements of Crops”** on March 3, 2021.
24. Dr. Neeraj Buch, Professor and Chairperson, Department of Civil & Environmental Engineering, Michigan State University, Michigan, USA delivered an expert talk on **“Overview of Pavement and its Type”** on March 2, 2021.
25. Dr Xingquan Zhu, Professor, ECE department ,Florida Atlantic University, USA delivered an expert talk on **“Collaborative Teaching on Neural Network”** on March 2, 2021.
26. Dr. Ramesh Teegavarapu, Professor, graduate program director & coordinator, Department of Civil, Environmental and Geomatics, Florida Atlantic University (FAU), Boca Raton, Florida delivered an expert talk on **“Basics of River Engineering”** on February 25, 2021.
27. Dr. Ramesh Teegavarapu, Professor, graduate program director & coordinator, Department of Civil, Environmental and Geomatics, Florida Atlantic University (FAU), Boca Raton, Florida delivered an expert talk on **“Unit Hydrograph Theory and Applications”** on February 23, 2021.

NATIONAL EXPERTS

1. A team from an esteemed organisation Secure Meters delivered an expert talk on **“Overview of Shainin Methodology A Problem Solving Technique”** on July 29, 2021.
2. A team from an esteemed organisation Secure Meters delivered an expert talk on **“ IOT for manufacturing”** on July 28, 2021.
3. Mr. Ankit Joshipura, Founder and Managing Director, METAMORPHOSIS Institute of Transformation delivered an expert talk on **“9 S for Success”** on July 23, 2021.
4. Mr. Manan Thakkar, Founding Partner Manan Thakker & Associates (Corporate Advocates, Cyber Lawyers & Information Security Advisors) delivered an expert talk on **“Cyber Crime and Safety”** on July 23, 2021.
5. Shri Hrishikesh Karunamaya Das, Akshaya Patra Foundation delivered an expert talk on **“5 Factors of Success”** on July 22, 2021.
6. Dr. H. S. Purohit, NASA Firetech, Ahmedabad delivered an expert talk on **“Total Loss Control and Risk Management”** on July 22, 2021.
7. Dr Rudra Rameshwar, SHSS, T.I.E.T. Patiala (Punjab) India delivered an expert talk on **“Importance of Research in Computer Engineering”** on July 22, 2021.

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8. Ms. Poorva Dharmadhikari, Software Engineer- Microsoft Exchange team, Microsoft delivered an expert talk on **“What Next? Industry Journey ahead”** on July 22, 2021.
 9. Dr Himanshu Desai, M.D. (Psychiatry). D.P.M. Director & Psychiatrist Attached to Apollo Hospitals and Sardar Patel De-addiction Hospital, Ahmedabad delivered an expert talk on **“Mental Health during COVID times”** on July 22, 2021.
 10. Mr. Samir Motwani, RAPIDOPS SOLUTIONS PRIVATE LIMITED. Ahmedabad, Gujarat delivered an expert talk on **“Current Trends and Industry Expectations”** on July 22, 2021.
 11. Mr. Nitin Berry, Senior Manager, Cluster Head Gujarat, Masters Builders Solutions Pvt Ltd., delivered an expert talk on **“Protections to Concrete Structures”** on May 6, 2021.
 12. Dr Yash Shukla, Technical Director, CARBSE, CEPT University delivered an expert talk on **“Cooling Load Calculation”** on May 6, 2021.
 13. Mr. Rachit Oza, T&I Global Limited – Head Marketing & Project delivered an expert talk on **“Entrepreneurship and startups”** on April 30, 2021.
 14. Dr. Bhargav Adhvaryu, Professor of Urban Analytics, Sustainability & Policy, Amrut Mody School of Management, Ahmedabad University delivered an expert talk on **“Road Network Planning and Design”** on April 16, 2021.
 15. Dr. Atul Sharma, Professor, Department of Mechanical Engineering, Indian Institute of Technology, Bombay delivered an expert talk on **“Physical Law and Discrete-math based FVM”** on April 15, 2021.
 16. Dr. Ravi Gandhi, IC department Alumni & Senior Lecturer, VisionGATE Gate Coaching delivered an expert talk on **“Research Opportunities for IC Engineers”** on April 9, 2021.
 17. Dr. Paresh Kariya, Director West, PAPL CORP, Chennai delivered an expert talk on **“Vertical Transportation”** on April 8, 2021.
 18. Mr. Vishal Parekh, Owner, Environ, Environmental consultant, Gujarat delivered an expert talk on **“Monitoring of Air Pollutants Releasing Through Stationary Sources”** on April 1, 2021.
 19. Dr Shruti Oza, Professor , BVU, Pune delivered an expert talk on **“Research Talk on Flash ADC”** on March 30, 2021.
 20. Prof. H K Raval, SVNIT, Surat delivered an expert talk on **“Discussion on NBA Compliance Report for Chemical Engineering Department”** on March 26, 2021.
 21. Dr Dipankar Nagchaudhry, Professor, DAIICT, Gandhinagar delivered an expert talk on **“Analog CMOS Integrated Circuits”** on March 26, 2021.
 22. Mr. Rishabh Kapil & Mr. Deval Kshatriya (Hilti India Pvt. Ltd.) delivered an expert talk on **“Anchors and Rebars used for Structural Repairs”** on March 25, 2021.
 23. Prof. Pranab Mohapatra, Professor, IIT Gandhinagar delivered an expert talk on **“Kinematics”** on March 22, 2021.

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24. Col. Ravinder Singh, Commanding Officer, No.1 Composite Technical regt NCC, Telangana delivered an expert talk on **“Role of Armed Force and Youth in Disaster Management”** on March 22, 2021.
 25. Tanuj Mishra, BASF Construction Chemicals delivered an expert talk on **“Construction Chemicals used for Structural Repairs”** on March 18, 2021.
 26. Mr. Sammir Sakhare, Head, AMDD/MESA, SAC(ISRO) Ahmedabad – 380015 delivered an expert talk on **“Activities at SAC ISRO - Mechanical Engineering Perspective”** on March 10, 2021.
 27. Dr Deepak Misra, Scientist ,SAC/ISRO, Ahmedabad delivered an expert talk on **“Lecture series Information Coding Theory”** on March 9-23, 2021.
 28. Shri Harishchandra Jakhmola, GM Kalptaru Transmission and Power Limited delivered an expert talk on **“Good Construction Practices”** on March 9, 2021.
 29. Mr. Jasraj Purohit, Research Engineer , Jekson Vision Pvt. Ltd., Ahmedabad delivered an expert talk on **“Industrial Applications of Image Processing”** on March 8, 2021.
 30. Ms. Ketki Gadre. Programme Officer, Waste Management, Centre for Environment Education (CEE), Sargam Marg, Bodakdev, Ahmedabad delivered an expert talk on **“E-Waste Management”** on March 5, 2021.
 31. Dr. Gaurang Joshi, Professor, Civil Engineering Department, SVNIT Surat delivered an expert talk on **“Fundamentals of Road Safety”** on March 5, 2021.
 32. Mr Dhruv Dave, CPU Verification Engineer, ARM Embedded Technologies Pvt. Ltd, Bangalore delivered an expert talk on **“Memory Organization”** on February 26, 2021.
 33. Mr Manoj Parmar, Program Director – AIShield at Robert Bosch Engineering and Business Solutions Private Limited (RBEI), Bangalore) delivered an expert talk on **“Real-Time Operating System”** on February 23, 2021.
 34. Mr. Rohan Garg, Career Launcher & Nirma Alumni, delivered an expert talk on **“Cracking Competitive Exams for Dream Careers”** on February 15, 2021.
 35. Mr. Haresh Bhatt, ATUL Ltd, & in Kemrock Export & Industries Ltd, Asoj, Vadodara-Halol Road delivered an expert talk on **“Pressure Sensors and MEMS based ICs”** on February 12, 2021.
 36. Mr.Kunal Chhabaria, Tata Administrative Service (TAS) delivered an expert talk on **“Corporate Needs Business Professionals with a Technical Knowhow: What can you do to meet the demand? “** on February 11, 2021.
 37. Mr Bhavin Patel, Software Engineer II, Cadence, Ahmedabad delivered an expert talk on **“Universal Verification Methodology”** on February 11, 2021.
 38. Mr. Haresh Bhatt, ATUL Ltd, & in Kemrock Export & Industries Ltd, Asoj, Vadodara-Halol Road delivered an expert talk on **“Temperature Sensor ICs”** on February 11, 2021.
 39. Mr. Dhaval Ladva, Sr. Manager, Lighting Solutions, Wipro Enterprises (P) Ltd. (Alumni, EE, 2010) delivered an expert talk on **“Efficient Lighting and Illumination”** on January 28, 2021.

40. Dr. Srinivas Arkatkar, Associate Professor, SVNIT Surat delivered an expert talk on **“New Technologies in Road Safety”** on January 26, 2021.
41. Mr. Pradip Sheth, Director – MEPF Engineering, INI Infrastructure & Engineering Private Limited, Ahmedabad delivered an expert talk on **“HVAC in Building”** on January 25, 2021.
42. Mr Rahul Raghav, Software Development Engineer-2, Amazon, Bengaluru delivered an expert talk on **“How to Climb the Career Ladder”** on January 20, 2021.
43. Mr. Ankur Srivastava, (Freelance Consultant) delivered an expert talk on **“Centrifugal Compressors or Reciprocating Compressors”** on January 19, 2021.
44. Mr. Rupal Shah, Consulting Structure Engineer, Ahmedabad, delivered an expert talk on **“Practical Aspect in Design of Steel Industrial Structures”** on January 13, 2021.
45. Mr. Raghunath Patil, AGM NUVOCO Vistas Pvt. Ltd. delivered an expert talk on **“Advanced Concrete Technology”** on January 11, 2021.
46. Dr Dhruv Dave, CPU Verification Engineer, ARM Embedded Technologies Pvt. Ltd, Bangalore delivered an expert talk on **“Tools, Technology and Techniques for CPU Verification”** on January 8, 2021.

FACULTY CORNER

PhD Degree Awarded to the Faculty of Institute of Technology



Prof. Narasimha Reddy Ravuru

Title of Thesis : Hydrogen production via catalytic glycerol reforming

Name of Guide : Dr.S.S.Patel

University : Nirma University



Prof. Lata Gohil

Title of Thesis : Affect Analysis Using Social Media Multilingual Textual Data to Predict Voting Behaviour

Name of Guide : Dr Dharmendra Patel

University : Charusat, Changa



Prof. Rupal Kapdi

Title of Thesis : Robust Brain Tumor Segmentation for Overall Survival Prediction

Name of Guide : Dr. Mehul S. Raval

University : Ahmedabad University



Prof. Pronaya Bhattacharya

Title of Thesis : Co-Existence of Packets and Bursts in High Speed Networks

Name of Guide : Dr. Amod Kumar Tiwari

University : Dr. A. P. J. Abdul Kalam Technical University, Lucknow, Uttar Pradesh, India



Prof. Tarjni Vyas

Title of Thesis : Word sense disambiguation for Gujarati language

Name of Guide : Dr.Amit Ganatra

University : Charusat, Changa



Prof. Devendrasinh Vashi

Title of Thesis : An Enhanced Approach to Privacy Preserving Data Mining with Cryptography for Medical Health Care Data

Name of Guide : Dr. Harshad Bhadka

University : C. U. Shah University, Wadhwan



Prof. Sapan Mankad

Title of Thesis : Enhancing Voice Liveness Detection in Speaker Verification systems using Machine Learning approach

Name of Guide : Dr. Sanjay Garg

University : Nirma University



Prof. Dhaval Shah

Title of Thesis : Experimental and Numerical Investigations on Minimization of Spring-back Deformation for a CFRP Parabolic Antenna Reflector Used in Space Applications

Name of Guide : Dr. Kaushik M Patel

University : Nirma University



Prof. Mayur Makhesana

Title of Thesis : Performance Assessment of Solid Lubricants and Minimum Quantity Lubrication in Machining

Name of Guide : Dr. Kaushik M Patel

University : Nirma University



Prof. Darshit Updhyay

Title of Thesis : Investigations on Influence of Steam Injection and Catalyst on Producer Gas Quality in Fixed Bed Gasifier with Lignite as Feedstock

Name of Guide : Dr. Rajesh N Patel , Co-guide: Dr. Jayesh Barve

University : Nirma University

AWARDS WON BY THE EMPLOYEES OF THE INSTITUTE

1. Dr H K Patel is elected as Chair – Student Affairs (Scholarships), ISA District'14 (Asia-Pacific) for the term 2021-22
2. According to the recently released rankings by Guide2Research Team, Dr. Sudeep Tanwar has secured 55th rank (based on h-index, citations, and number of DBLP documents) in the list of “Top Scientists (Computer Science & Electronics) within India” (<http://www.guide2research.com/scientists/IN>).
3. Dr Absar Lakdawal was awarded Best Research Scientist for overall Contribution in all Activities of Research (under Asso. Professor Category) under the Faculty Awards and Incentives scheme of Nirma University for the year 2019-20. A Cash Award (one-time) of Rs. 35,000/- was rewarded to him.
4. Dr Digesh Joshi, was awarded, Best Assistant Professor of the Institute for Overall Performance under the Faculty Awards and Incentives scheme of Nirma University for the year 2019-20. A Cash Award (one-time) of Rs. 40,000/- was rewarded to him.
5. Dr Darshit Upadhyay was awarded Best Research Scientist for overall Contribution in all Activities of Research (under Asst. Professor Category) under the Faculty Awards and Incentives scheme of Nirma University for the year 2019-20. A Cash Award (one-time) of Rs. 35,000/- was rewarded to him.
6. Dr Ankit Thakkar was awarded Cash Award of Rs. 20,000/- under Research Consultancy Award Scheme of Nirma University for the Publication of Nine Research Papers in Reputed Journals with Highest Impact Factor of 13.669.
7. Dr Manisha T Shah was awarded Cash Award of Rs. 20,000/- under Research Consultancy Award Scheme of Nirma University for Publication of two Research Papers in Reputed Journals with Highest Impact Factor of 7.503.
8. Mr Sandip Modi was awarded with the Best Computer Operator Cum Programmer of the University for the year 2019-20. A Cash Award of Rs. 25000/- was rewarded to him.

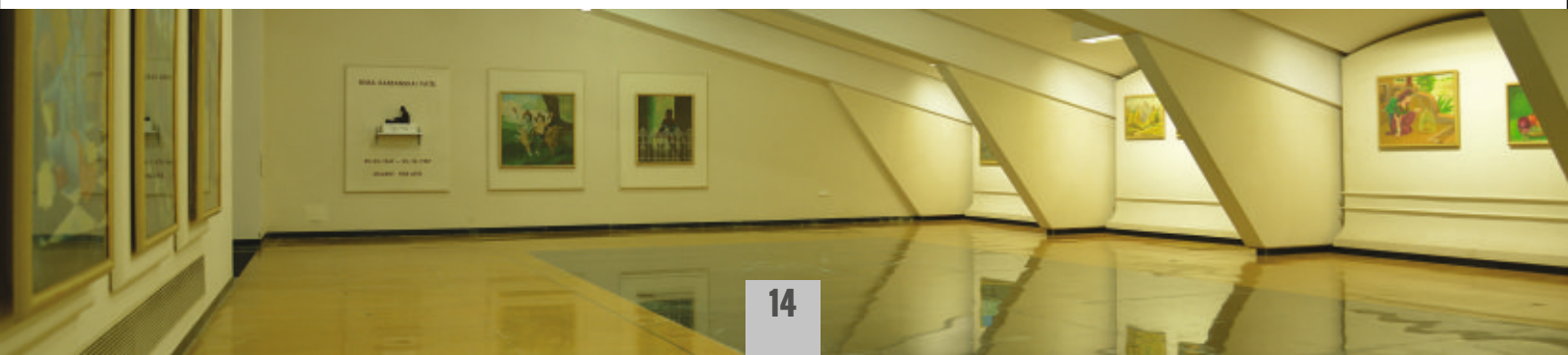
FUNDED PROJECTS

Institute has received total Rs. 474.13 lakhs of Rs as a grant from funding agencies. Total 58 projects are going on currently in the institute. The list of various project sanctioned and corresponding investigators can be found here.

RESEARCH PUBLICATIONS

The faculty members are regularly publishing papers in peer reviewed journals. For the duration of January 2021 to July 2021 total 133 papers were published. Details can be accessed here.

Faculty members are actively participating in various International and National Conferences. Further details about the same, can be accessed here.



ALUMNI CORNER

On January 11, 2021 ACM Student Chapter organised an interactive talk series with one of the alumni Shivam Patel graduate from Carnegie Mellon University and an alumnus of 2020. He has completed multiple research collaborations with top tier universities such as MIT, Harvard, Stanford, Cambridge and Caltech.

An expert talk titled 'Higher Studies and Job Opportunities in USA for Specialized Roles' was conducted for the students of CSE, semester III (D to D) by our alumnus Ms Barkha Patel (2017, IT), a researcher at AT & T, USA.

Mr Amit Kumar Srivastava, Delivery Manager - CAE at L&T Technology Services, alumni of 2005 batch of M.Tech in Mechanical Engineering with specialization in CAD/CAM of the institute received Best Alumni award from Nirma University.

Mr Rohan Garg (Career Launcher & Nirma Alumni from EC department) delivered an expert lecture on "Cracking Competitive Exams for Dream Careers" for B.Tech-VI semester Instrumentation and Control engineering students on 15 February, 2021.

Mr Rahul Singh Raghav, currently working at Amazon, Bangalore as a Software Development Engineer, a 2017 pass out alumnus of IT branch conducted an expert talk on 20th January, 2021 on the topic 'How to climb the career ladder' for the students of D to D.

Dr Gaurang Upasani, Computer Architect, Google, CA, USA, part of a member of advisory committee, delivered a plenary talk in the technical session of VLSI and Embedded Systems. He served as a judge of the same session. Dr Gaurang also sponsored the special prize in all the sessions of the ACECAT-2021 conference.

Dr Samarth Bhrahmbhatt, Post Doc Research Fellow, Intel Intelligent Labs, USA, served as a judge in the oral presentation session of Computer Vision, AI and Machine Learning in the conference ACECAT 2021.

Jaimin Patel, Product Line Manager, Palo Alto Networks part of advisory committee, a reviewer for

scrutiny of the papers, served as a judge in the Computer Vision, AI and ML in conference ACECAT 2021.

Mr Vishal Mehta, Head, Image Processing Group, Jakson Vision, Ahmedabad, served as a judge in the session of Image and Video Processing in the national students' conference ACECAT 2021.

Mr Nilav Choksi, Principle Engineer, Embedded Systems, Volansys, Ahmedabad, served as a judge for the session of VLSI and Embedded Systems in the Students Conference ACECAT 2021.

Mr Dhaval Upadhyay, Sr. Scientist, SAC, ISRO, Ahmedabad, served as a judge of the session on Communication Systems and Standards in ACECAT 2021.

Mr Dhaval Shah, Founder, Neesa Illumination, Ahmedabad, provided the sponsorship of Rs. 10,000 for the national conference ACECAT 2021.

Mr Anjani Sharma, (M. Tech student, IIT Bombay) conducted an expert talk on "Technical opportunities after Bachelors' Degree" on January 19, 2021;

Mr Shivam Pandit, (Owner- Laxmi Chemical Corp., Valsad) conducted an expert talk on "Entrepreneurship for Chemical Engineers" on February 4, 2021;

Mr Hardik Lakhani(Principal Engineer-Process Department, Linde Engineering India Pvt. Ltd) conducted an expert talk on "Chemical Engineering - Placement / Interview aspect, Industrial exposure" on February 6, 2021;

Ms. Neha Tripathi (Deputy Manager (Process design), GSFC Ltd.) conducted an expert talk on "Application of Pumps in process industry" on February 10, 2021;

Ms. Sophia Varghese conducted an expert talk on "Role of Chemical Engineers: In context with Industry and Research" on February 23, 2021.



STUDENTS' CORNER

Six students from the Instrumentation and Control Engineering Department: Ms Somya Gupta , Ms Shailly Maheshwari and Mr Prashant Somaiya (2000USD) received the ISA Education Foundation Scholarships of 2000 USD each. Mr Rishi Hiran ,Mr Rutvik Desai and Mr Shrey Shah received the scholarships of 1300USD,700USD and 500 USD respectively from PMCD Division of ISA (USA).

M.Tech Student Jay Viradiya (19MCLC05) received Mitacs Globalink Research Award - Shastri Indo-Canadian Institute (SICI) on March 31, 2021. He worked as an Intern for the project titled “Assessment of Corrosion in RC Slabs using NDTs” under the Guidance of Dr Rishi Gupta, Department of Civil Engineering, and University of Victoria, British Columbia, Canada and received 6000 USD as the award money.

Mr Ansh Asija secured 2nd rank in event “E-Cell Hackathon” sponsored by E-Cell conducted on March 28, 2021.

Ms Divya Mahur and Ms Labdhi Sheth along with their teams, students of Department of Computer Science and Engineering got selected in the Impact summit Punjab Hult Prize 2021 and were shortlisted in the top 6 out of the 100 teams hailing from India and neighbouring countries on March 20, 2021.

Karunya Institute of Technology and Science, Coimbatore organized the 3rd IEEE International Conference on Signal Processing and Communication on March 13, 2021. Jinalee Raval & Anju Katarmal secured Best Paper Award for the paper titled "Real-time Sign Language Recognition using Computer Vision" "RF CMOS Double-Balanced Gilbert Cell Mixer for 5G Application" respectively.


An Essay Competition on March 12, 2021 on the theme of "Independent India" was organized by NSS Unit, Nirma University to mark the 75th Anniversary of India's Independence as part of the "Azadi Ka Amrut Mahotsav" celebrations and fifty seven students from various institutes of Nirma University participated in it. Mr Shantanu Jain won second prize in the competition.

Mr Aaditya R. Gill and Mr Ansh Asija secured 2nd rank in event “Innovative Idea in Automotive Domain” sponsored by Mercedes-Benz conducted on March 06, 2021.

IETE and ISVE at Advanced Regional Telecom Training Centre, BSNL, Hazaribag Road, Ranchi organized the 1st International Conference on Nanoelectronics, Machine Learning, Internet of Things and Computing Systems (NMIC-2021) on March 03, 2021. Khyat Patel secured Best Paper Award for the paper titled ‘A new approach for change detection analysis of multi Polarized Synthetic Aperture Radar (SAR) data’ and its comparison with the results obtained using various ML techniques.

Ms. Divya Mahur, student of Department of Computer Science and Engineering was selected for GSSOC (Girl Script Summer of Code) 2021 among 20,000 applicants on February 27, 2021.

Team RTE - Yash Shah, Vaibhav Sorathiya, Saavan Patel, and Deep Manpara became 2nd runner up and won the cash prize of 200 USD in a National level online Hackathon (MINeD) on February 26& 28, 2021, organized by Centre of Excellence in Data Science (CoE-DS) at CSE Department, Institute of Technology, Nirma University in collaboration with SUNY Binghamton University, USA.



Team Techies Grid - Devansh Suthar, Purvansh Shah, Omkar Agnihotri, Chand Vachhani and Yash Thakkar won the first prize of 500 USD in a National level online Hackathon (MINEd) on February 26 & 28, 2021, organized by Centre of Excellence in Data Science (CoE-DS), Institute of Technology, Nirma University in collaboration with SUNY Binghamton University, USA.

Parthav Patel, student of M.Tech. Semester IV received Best Young Researcher Presentation Award for the paper titled 'Strengthening of Multistory Steel Moment Resisting Frame Building against Progressive Collapse using Chevron Bracing' presented at the Virtual International Conference on Sustainable Building Materials and Construction (ICSBMC - 2021) organized by Civil Engineering Department, S. V. National Institute of Technology, Surat in association with Indian Concrete Institute (ICI) Surat Centre from February 4 to 6, 2021.

Mr Jyot Makadiya, student of Department of Computer Science and Engineering achieved worldwide rank 99 among 1728 participants in Tabular Playground Series January Data Science programming competition hosted on Kaggle on January 31, 2021.

Mr Divyank Jain, student of Department of Computer Science and Engineering received Best Paper Award in Nirma International Conference of Management (NICOM'2021) on January 09, 2021.

Mr Akshar Patel, student of Mechanical Engineering was appointed as a Coordinator to drive "COP+26 International Climate Action Course 2021". This International short term online course is organized by IARF Centre of Excellence for United Nations Global Goals and is based on ICUN World Climate Action Initiative (2015-2030).

Arpit Shukla, a final year student from CSE department was placed as Blockchain Developer in 2 US-based Multinational Companies (MNCs), Edge196 and Titans Finance.


Mr Rajesh Gupta, a Full-time Ph.D. scholar, registered under the supervision of Dr Sudeep Tanwar, was awarded an International Student Grant to attend the IEEE International Conference on Communications (ICC 2021, h-index 67) scheduled on June 14 to 23, 2021 at Montreal, Canada.

A Knowledge Sharing Session on "Vedic Math - A Magical Key to Fast Calculations" (Fourth session of this series) was organized by IEI Students' Chapter - Civil Engineering Department on 24 July, 2021 Saturday. The session was conducted by Mr Bansil Korat, student of Semester V, Civil Engineering Department, Institute of Technology, Nirma University.

ICI Student Chapter, Department of Civil Engineering, and Dr Fixit training institute organized a student development program on 'A Comprehensive Approach to Waterproofing and Repair of Buildings Structures'. The 6 hour programme focussed on the topics such as Good Construction Practices, Waterproofing Materials, Practices, and Repair Systems. Two hour sessions by Dr Fixit team were conducted on June 19, June 26 and July 3, 2021.

B.Tech Civil Engineering Student, Adityasinh Jadeja was the 1st runner up of the national level competition "UltraTech Stimulus Competition" for West Zone of India on June 30, 2021. A cash prize of INR 10,000/- was awarded to him.

B.Tech. Semester VI students Hard Rokad, Rishika Patwa, Sanskriti Mishra, and Sarthak Farkya participated in the ZS Campus Beats challenge 2021 and secured the First position.



M.Tech. Semester IV student Jinalee Raval received the best paper award for a research paper presentation in 3rd IEEE International Conference on Signal Processing and Communication on the title “Real-time Sign Language Recognition using Computer Vision” on May 13&14, 2021 at Coimbatore, India, under the guidance of Dr Ruchi Gajjar.

B.Tech. Semester II student Maharshi Patel secured 3rd position in IEEE PreCom project competition. A total of 67 teams participated out of which only 6 teams were selected.

B.Tech. Semester VI student Khyat Patel received best paper award in 1st International Conference on Nanoelectronics, Machine Learning, Internet of Things & Computing Systems (NMIC-2021) on title “Technical Session: Machine Learning & Cloud Computing” organised by IETE & ISVE at Advanced Regional Telecom Training Centre, BSNL, Hazaribag Road, Ranchi on March 13 to14, 2021

The representatives of ISA Student Chapter, Nirma University Ahmedabad organised a series of webinars “Placement Preps” from April 30 to May 2, 2021. The series comprised of three webinars: Profile Building, Campus to Corporates, Soft-Skill Development.

Workshop on “Industrial Cybersecurity” by Instrumentation and Control Department of Nirma University ISA-Student Chapter of Instrumentation and Control Engineering Department, Institute of Technology, Nirma University organised a workshop on “Industrial Cybersecurity” on 5 and 6 January, 2021. The workshop was sponsored by the GUJCOST, Department of Science & Technology and Government of Gujarat. The workshop was conducted by esteemed Industry experts from the field of Cyber Security - namely, Mr Prashant AC, Mr Nikhil Shah and Mr Rohit Sharma.

The first edition of ASEAN-INDIA Hackathon 2021 was organized online from February 1to3, 2021, addressed by the Honourable Prime Minister Shri Narendra Modi. 330 representatives from 11 countries were tasked with solving 11 problem statements received from the Ministry of Education. The theme of the problem statement was majorly focused on the Blue Economy. Mr PRANAV AGARWAL, a third year student in B.Tech Mechanical Engineering stood First and won a cash reward of 2600USD approximately. Rishi Hiran and his team from Instrumentation and Control Engineering department designed a solution for the problem-Cost of Air Pollution to Solar Power Generation (CAPsolar) by using linear regression algorithm which provides the correlation between the factors affecting the solar power generation (like Air pollution) and Solar power generated and predicting the amount of loss of solar power generation will be there for the given change factor. The team won special prize money of 600USD.

An online expert lecture on ‘IoT for manufacturing’ and ‘Overview of Shainin Methodology’ (A problem solving technique was delivered by the team of experts from Secure Meters Ltd for the students of B.Tech Semester VII Mechanical Engineering on July 28and29, 2021 respectively.

Mr Shah Tirth Bhavinkumar, First year student of M.Tech in Mechanical Engineering won third prize in online technical quiz competition in the domain area of Heating Ventilation and Air Conditioning and Refrigeration (HVAC&R) organized by American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Western India Chapter held on May 8, 2021.

Kevin Vadaliya of Chemical Engineering Department secured First rank in Chem-O-Philia (A Chemical Engineering Quiz) at Azeotropy 2021 conducted by and held at IIT Bombay.

Krishna Patel of Chemical Engineering Department secured First rank in Industrial Design Problem (IDP) at Azeotropy, IIT BOMBAY in March, 2021. The problem statement was to vaporize a product stream containing butyl derivatives, acetic acid and water.

The Storm Case Challenge "Industrial Problem Solving" was organised by the Thermax Global Pvt Ltd, mainly for pre-final Engineering Students across India. The challenge involved a real-life industrial problem found in one of Thermax's manufacturing units. More than 80 teams participated including 6 teams from the Institute. Students of Nirma University bagged the top two positions at the national-level Industrial Problem Solving competition. The winning team comprised of Darshan Patel Gautam Rakholiya, Dhruvin Patel, Harsh Patel, Mihir Patel, the pre-final year students of Chemical Engineering and won a cash prize of INR 50,000. The second team comprising of Manan Rathod & Kush Kapadia from Chemical Engineering Department and Mr Vashishtha Nayak, Mr Yash Bhutwala and Mr Dhruv Borda from Mechanical Engineering won First Runner up prize and a cash prize of INR 30,000.

Mr Akshat Hetal Patel, a final year student of B.Tech in Mechanical Engineering was awarded NPTEL Discipline Star in online course certification by National Programme on Technology Enhanced Learning (NPTEL), MHRD, New Delhi. He was in the top 1% of students for the Course titled 'Finite Element Method: Variational Methods to Computer Programming' which was organised from July to December, 2020.

SPORTS ACTIVITIES

A Chess Tournament was organised by Nirma Sports Association on March 21, 2021 from 8 pm - 8:50 pm on an online platform during which students discussed, analysed, and solved 40 Chess, Puzzles. The tournament was a great success.



The poster features a dark blue background with a chessboard and pieces. At the top left is the NSA logo (Nirma Sports Association) and at the top right is the Chess.com logo. The text is centered and reads: "NIRMA SPORTS ASSOCIATION PRESENTS CHESS TOURNAMENT". Below this, it specifies the date and time: "Date and time - Sunday, 21st March | 8:45 pm", the duration: "Duration - 2 hours", and the time control: "Time control - 10 min". It also mentions an "Interaction/Warm-up Session - 8 pm to 8:45 pm" and provides the "NSA Chess Club Link - <https://www.chess.com/club/nirma-chess>". The coordinator is listed as "Coordinated by: Dr. Amita Chaudhary (Sports Coordinator, ITNU)". At the bottom, it says "For queries: Naitik - 6352567251" and "Open for all students of ITNU Free Participation".

NSA

Chess.com

NIRMA SPORTS ASSOCIATION PRESENTS

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