

# RESEARCH REPORT



**NIRMA**  
UNIVERSITY

NAAC ACCREDITED 'A' GRADE



April 2019 - March 2020

## HUMAN CHAIN

Concept note:

The design “Human Chain” represent unity, solidity, trust, loyalty and confidence in the field of research process of collecting, analyzing and interpreting information together as a team for the dynamic & transformational growth. At NU, we believe in better research quality with scholarly excellence through exceptional team work.



## **Annual Research Report (2019-20)**

**Nirma University**  
**Sarkhej-Gandhinagar Highway, Ahmedabad- 382 481**  
**Website: [www.nirmauni.ac.in](http://www.nirmauni.ac.in)**



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## Message from the Vice President

Nirma University, since its inception, has always strived for achieving highest standards of quality in all its endeavours and has taken several initiatives in its quest for excellence. It has advanced and arrayed strong systems and processes for continuous improvement of quality research amongst faculty members. A structured scheme is also offered to the student researchers for their outstanding research achievements.

The Research activities at the University get boost from successful practices for initiating and maintaining a culture of research. The University has also been involved in collaborating as well as partnering with not only national but also international institutes of repute in order to explore greater possibilities of research. Our efforts are to make the local research strong enough to make its mark globally and translate into a tangible reality.

To emphasize the need for active research by the academia for the development of nation, it is vital that effective research on societal issues can also help in solving many burning issues of the society. The University has now put more emphasis on publications in reputed journals, patents, funded research projects and strengthening its Ph.D. programmes.

As we review on the progress of the University through the Annual Research Report 2019-2020, I would like to acknowledge the persistence and meticulousness of the researchers of the University who have made it attainable. We keep up the determination to go forward to serve the humanity at large.

K. K. Patel  
Vice President,  
Nirma University

## Message from the Director General

Dear Reader,  
Greetings!

The journey of university from enlightenment and knowledge dissemination in the eighteenth century to entrepreneurship and innovation in the twentieth and twenty first centuries has been quite interesting and eventful. The research university that took birth in Germany inspired several universities across the world, especially in the United States that today has the maximum number of research and innovation universities. India till the time of independence had only one research university – the Indian Institute of Science. Several research universities were established post-independence era. However, India needs many more research universities if she wants to be a research and innovation leader in the comity of nations.

The New Education Policy (2020) clearly states that it aims to establish India as a knowledge society and universities have a pivotal role in that. All universities are expected to engage in research and innovation. Nevertheless, the research university shall majorly engage in research and innovation, while the teaching university shall moderately focus on research and innovation. More importantly, research ought to produce outputs that are useful for the welfare of humankind. Relevance must be given top priority in the selection of research projects. Further, the universities must inculcate right values among faculty and students so that they become active researchers and develop an active mindset for innovation.

The pandemic Covid-19 demonstrates that research and innovation is the way forward for a brighter future for humankind. Although the pandemic has a diabolic impact on lives and livelihoods, nations could manage it much more effectively with the help of scientific research and innovative management. Nobody was fully sure that we would have a vaccine within a year, but it was achieved and it is likely that the pandemic shall be under control by the end of 2021. Research and innovation are opening new possibilities and creating new opportunities. Greater investment in science and technology will yield high dividends for humanity.

We at Nirma University fully realise the significance of research and innovation. Although we had humble beginnings, we have moved from strength to strength. Not only our faculty are engaged in research and innovation, our students – from the undergraduate level to doctoral level – are also active partners in this endeavour. Faculty collaborate in research endeavours at the intra-university level as well as inter-university level. Our recent intervention is the promotion of research and innovation at the undergraduate level. Various institutes have taken several steps to involve students in research and to provide a fillip to their innovative ideas.

I hope this research report provides you with information on research and innovation activities at the various institutes of the universities and also throws light on the thrust areas on which our faculty and students are working. You will also notice that papers, projects and patents are punctuated with high quality. We shall continue to invest more resources for research and innovation and contribute to the welfare of humankind that is part and parcel of our vision.

Warm regards

Anup K Singh, PhD

## Preface

This research report is a humble effort of Directorate of Research and Innovation (DRI) for systematically furnishing a brief account of research related activities carried out at Nirma University during April 01, 2018 to March 31, 2019. This is the 5<sup>th</sup> in row “Annual Research Report” published for the benefit of all the stakeholders of the university.

Nirma University thrives in enhancing research and innovation spirit in all its faculty members and students at various levels. The university is committed to its quality research outcome for the development of industry, society, nation and humankind. Faculty members and students of the university keenly contribute providing innovative solutions in their areas of expertise. Activities are being carried out at various fronts like; guiding research scholars under Ph.D. programmes, funded research projects, research publications in quality journals, patents, writing books and book chapters, attending and presenting research papers in national and international conferences / seminars / workshops, attending research related training programmes and orientation programmes, Understanding its responsibility, the university also provides seed funds in the form of minor and major research projects, services of attorney for filing patents, full financial support up to the grant of the patent, travel grants for presenting papers in international and national conferences, etc. As a result of motivation provided by the university, several faculty members bestowed their outstanding contributions in research, and are also recognized for their notable research outcomes by various agencies.

DRI at Nirma University works as facilitator and catalyst for research related activities at the University. Several Research Training Programmes, Research Orientation Programmes, Funding Opportunity Awareness Sessions, Patent Awareness Sessions, Ph.D. Students’ Poster Presentation, and other Research Related Seminars are regularly organized by DRI. Making effective use of Information and Communication Technology (ICT), the data for this Research Report were compiled through the tool developed in house.

During the financial year 2019-20, a total of eight major research projects worth Rs. 241 lakh, and six minor research projects worth Rs. 19 lakh are completed, which were funded by external agencies. Currently, twenty five externally funded major research projects worth Rs. 659 lakhs,

and three externally funded minor research projects, worth Rs. 2.8 lakh are ongoing. Moreover, a total of eleven externally funded major research projects, worth Rs. 366 lakh were sanctioned in this financial year.

To further strengthen research pipeline, Nirma University also provides seed money support for research. This year, second major research project, funded by NU, worth Rs. 27.92 lakh is successfully completed. Moreover, thirty five minor research projects funded by Nirma University worth Rs. rupees 31 lakh are also successfully completed this year. Furthermore, one major research project worth Rs. 30 lakh, and five minor project worth Rs. 7 lakh are currently ongoing, which are funded by Nirma University. In addition to this, one major project, worth Rs. 30 lakh, and thirty three minor research projects are sanctioned by the university this year worth Rs. 29.7 lakh.

Only the quality papers published in Scopus / Web of Science / ABDC / EBSCO indexed journals are considered, and a list of 261 such papers is included in the Report. In addition to the journal papers, a total of 15 books, 66 book chapters, 91 research papers in the conference proceedings, and 18 chapters in the proceedings were published. One patent is published, one is filed, and three patents are granted during the year 2019-20. A total of 41 doctoral students have received their degrees during this year, and 42 new doctoral students were admitted. Apart from these, 25 faculty members received research awards in different categories and 14 faculty members got financial assistance to attend international conferences / workshops. Several research conferences, seminars, and workshops on emerging trends being organized by the constituent institutes in diverse areas. Along with these, more than 200 research talks and invited lectures of eminent speakers, have been arranged by all the constituent institutes to enhance the research awareness and upgrade the knowledge. A total of 6 international/national conferences were also organized by the constituent institute of the university.

We are thankful to all the funding agencies for putting faith on our research capabilities and providing funds for research. The Management of Nirma University has always been very supportive for research drives. We sincerely thank the University Management, the Vice President, and the Director General, for their valuable guidance at different stages in the journey of DRI and publishing this report. Support extended by the Executive Registrar also deserves special mention here. We express our sense of gratitude to all the esteemed members of the Editorial Board and entire team of DRI for their critical inputs to further improve the quality of

the Report. Our special thanks to Prof. Sangita Shroff, Head – Department of Design for helping in getting the creative design of the front page. Thanks to Prof. Kanchan Gupta – Department of Design who designed the wonderful front page of the Report and provided the concept note of human chain which reflects the collective research efforts for betterment of humankind. Finally, we thank all the Heads of the Institutes and Faculty Members of the University, who have put their untiring efforts to reach to a new milestone in this never ending yet ecstatic journey of research.

**Prof. (Dr.) P. N. Tekwani**

Director

Directorate of Research and Innovation (DRI) – Nirma University

Chairman – Editorial Board

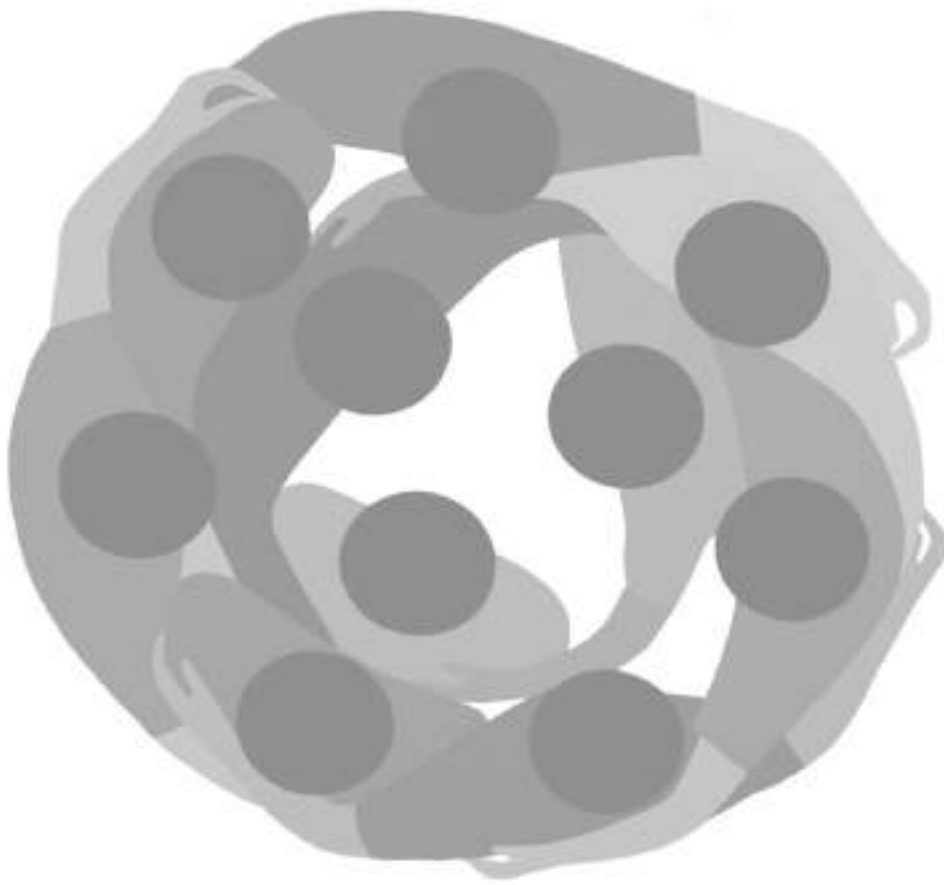
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# University Research Statistics at a Glance





# Nirma University

## Research Statistics at a Glance

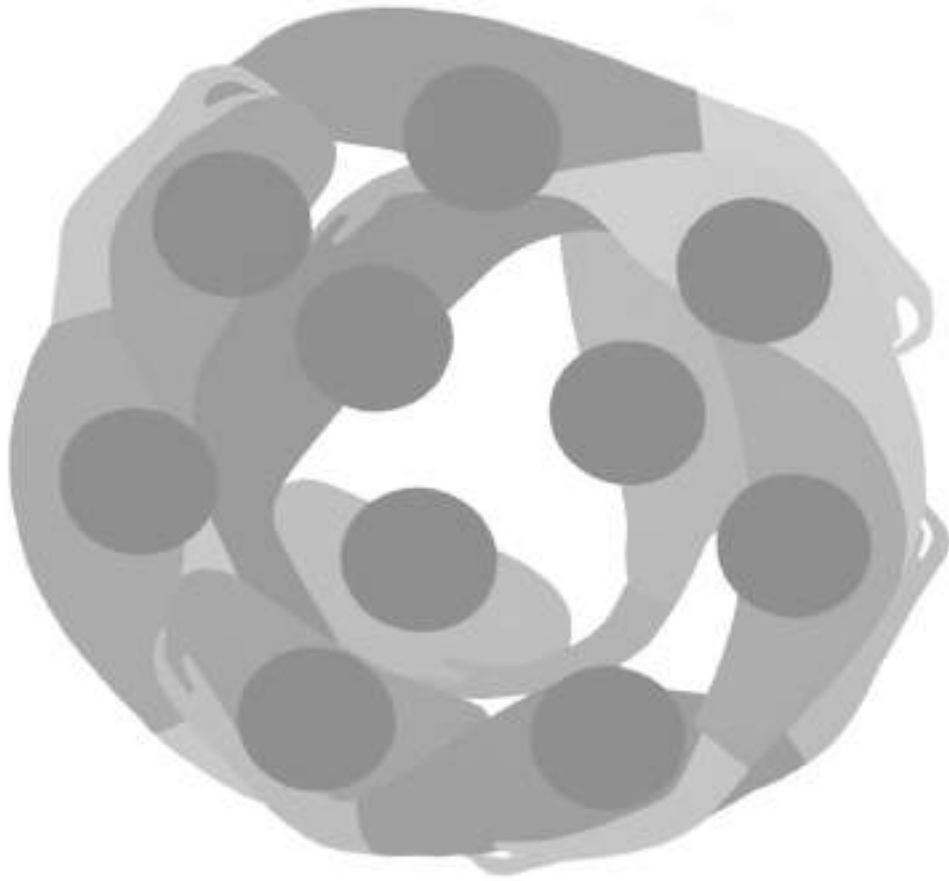
April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rupees (Rs.)
Completed Major Research Projects	09	2,70,06,100/=
Ongoing Major Research Projects	26	6,89,36,224/=
Sanctioned Major Research Projects	12	3,95,98,816/=
<b>Minor Research Projects</b>		
Completed Minor Research Projects	41	49,64,000/=
Ongoing Minor Research Projects	08	9,74,800/=
Sanctioned Minor Research Projects	33	29,66,700/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		261
Books Published		15
Book Chapters Published		66
Papers in Conference Proceedings		91
Chapter Published in Proceedings		18
<b>Patents</b>		
Patents Published		01
Patents Filed		01
Patents Granted		03
<b>Cases Published/Copyrights Received</b>		
Cases		2
<b>Doctoral Research</b>		
Ph.D. Degree Awarded		41
New Ph. D. Students Enrolled in this Year		42
Current Ph.D. Students		299
Current Ph. D. Guides		187
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		23

<b>Travel Grant</b>	
Travel Grants Received by the Faculty Members	14
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>	
International / National Conferences	06
Seminars / Workshops / Training Programmes	51
Research Talks / Lectures	204



Research Report  
of  
Institute of Technology





# INSTITUTE OF TECHNOLOGY

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Completed Major Research Projects	03	84,50,700/=
Ongoing Major Research Projects	14	3,02,42,650/=
Sanctioned Major Research Projects	02	40,73,600/=
<b>Minor Research Projects</b>		
Completed Minor Research Projects	32	35,94,000/=
Ongoing Minor Research Projects	05	4,59,800/=
Sanctioned Minor Research Projects	15	13,60,500/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		155
Books Published		07
Book Chapters Published		39
Papers in Conference Proceedings		91
<b>Patents</b>		
Patents Published		01
Patents Filed		01
<b>Doctoral Research</b>		
Ph.D. Degree Awarded		16
New Ph. D. Students Enrolled in this Year		21
Current Ph.D. Students		122
Current Ph. D. Guides		69
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		03
<b>Travel Grant</b>		
Travel Grants Received by the Faculty Members		08
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
International / National Conferences		01
Seminars / Workshops / Training Programmes		15
Research Talks / Lectures		64

## Research Projects

### Major Research Projects

#### Completed Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Using Deep Learning to Understand and Predict the Dynamics of Tokamak Discharges	Prof. Priyanka Sharma, Prof. Swati Jain	Board of Research in Nuclear Sciences (BRNS)	25,14,400/-
2.	Design Against Radiation Effects ASIC Standard Cell Library for VLSI Circuits	Prof. Niranjan Devashrayee, Prof. Nagendra Gajjar	Defense Research and Development Organisation (DRDO)	37,72,000/-
3.	Trajectory Planning for Robotic Arm for Automatic Damage Detection and Recognition of First Wall Tile Images in Tokomak Using Image Processing and Machine Learning	Prof. Swati Jain, Prof. Priyanka Sharma	Board of Research in Nuclear Sciences (BRNS)	21,64,300/-
<b>Total Grant</b>				<b>84,50,700/-</b>

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Development of Low-Cost Methodology for Surveying and Mapping with Indian Regional Navigation Satellite System (IRNSS-NAVIC)	Prof. Parul Patel, Prof. Hemang Dalwadi	Indian Space Research Organisation (ISRO)	17,05,000/-
2.	Identification of Material and Distress for Road Network of Ahmedabad City Using L and S Band Airborne Sar	Prof. Hemang Dalwadi, Prof. Parul Patel	Indian Space Research Organisation (ISRO)	19,56,000/-
3.	Identification of Perched Water Table Areas in Irrigated Tracks Using Airborne Sar Data (NISAR)	Prof. Parul Patel	Indian Space Research Organisation (ISRO)	20,67,000/-

4.	Identification of Existing Road Material, Condition and Potential Parking Area of Ahmedabad City Using AVIRIS Data and Updation Plan of Undeveloped Road	Prof. Parul Patel, Prof. Tanish Zaveri	Indian Space Research Organisation (ISRO)	17,00,000/-
5.	Calibration and Validation of RISAT-1 SAR Sensor	Prof. Parul Patel	Indian Space Research Organisation (ISRO)	37,00,000/-
6.	Spectral Discrimination and Separability Analysis of Crops and Weeds Using Deep Learning Techniques	Prof. Tarjni Vyas	Indian Space Research Organisation (ISRO)	17,40,000/-
7.	Mining Crop Cover, Crop Type and Crop Stages from L & S Band SAR	Prof. Madhuri Bhavsar, Prof. Vivek Kumar Sahdeo	Indian Space Research Organisation (ISRO)	14,28,000/-
8.	Development of Comprehensive Technique for Soil Moisture Estimation Using L&S Airborne Polarimetric Sar Data	Prof. Sanjay Garg, Prof. Priyank Thakkar	Indian Space Research Organisation (ISRO)	21,80,000/-
9.	Optimizing Parallelization of Legacy Code on Appropriate HPC Platform	Prof. Madhuri Bhavsar, Prof. Niraj Kumar Shah	Board of Research in Nuclear Sciences (BRNS)	12,23,550/-
10.	Proactive Solutions for Achieving Trust in Cloud Computing Using Machine Learning Approach	Prof. Madhuri Bhavsar, Prof. Prasad Vivek Kumar Sahdeo	Department of Science & Technology (DST)	23,94,500/-
11.	Algorithm for Water Pollutant Identification Due to Sewage and Industry Disposals for South Karnataka Coast, Mangalore Region	Prof. Tanish Zaveri, Prof. Pooja Shah	Indian Space Research Organisation (ISRO)	17,00,000/-
12.	Study and Development of Domain Adaptive Classification Algorithms for Advanced Earth Observation and Annotation System	Prof. Tanish Zaveri, Prof. Priyank Thakkar	Indian Space Research Organisation (ISRO)	17,00,000/-
13.	Development of Integrated Wastewater Treatment Systems Using Alternative Innovative Approaches of Microbial Fuel Cells,	Prof. Chetna Chauhan, Prof. Manisha Shah, Prof. Nasreen Munshi. This project is of interdisciplinarity nature	Gujarat State Biotechnology Mission (GSBTM)	48,96,600/-

	Magnetic Nanoparticles and Vermicomposting with Water Hyacinth for Secondary Sludge Management	and combined with Institute of Science, Nirma University and Veer Narmad South Gujarat University		
14.	SAR Polarimetry for Detecting Ocean Surface Targets	Prof. Alka Mahajan, Prof. Madhuri Bhavsar	Indian Space Research Organisation (ISRO)	18,52,000/-
<b>Total Grant</b>				<b>3,02,42,650/-</b>

### **Sanctioned Major Research Projects**

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Development of Advanced Algorithms for Land Use Land Cover Classification Using Deep Learning Techniques	Prof. Sanjay Garg, Prof. Swati Jain	Indian Space Research Organisation (ISRO)	20,91,600/-
2.	Design and Development of a Scalable Framework for Geospatial/Geoscience Data Ingestion, Ad-Hoc Queries, and Analysis on Big Data Environment	Prof. Sanjay Garg, Prof. Jayprakash Verma	Indian Space Research Organisation (ISRO)	19,82,000/-
<b>Total Grant</b>				<b>40,73,600/-</b>

### **Minor Research Projects**

#### **Completed Minor Research Projects**

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Development of Split AC Test Rig Working on Inverter Technology and Charged with Environment Friendly Refrigerant R-32 as a Laboratory Equipment for Engineering Students	Prof. Balkrushna Shah	American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRE)	2,26,800/-
2.	Reduction of E-Factor in Dyes and Pigment Industries (Environmental Pollution Control)	Prof. Parin Shah	Green Environment Services Co-Op. Soc. Ltd. CETP, Vatva	7,50,000/-

3.	Solar Photocatalysis for Wastewater Treatment	Prof. Leena Bora, Prof. Nikita Chokshi	Nirma University	1,00,000/-
4.	Catalytic Ozonation Process for Wastewater Treatment	Prof. Nikita Chokshi, Prof. Leena Bora	Nirma University	1,00,000/-
5.	Performance Enhancement of Dye Sensitized Solar Cell	Prof. Shibu N. Pillai	Nirma University	1,00,000/-
6.	Development of Solar Energy Based Desalination Still	Prof. Hemang Dalwadi, Prof. Amit Dubey	Nirma University	1,00,000/-
7.	Experimental Investigation on Concrete Filled Double Skinned Tube (CFDST) Composite Column Under Monotonic Axial Loading	Prof. Tejas Joshi, Prof. Arth Patel	Nirma University	1,00,000/-
8.	Feasibility Study of Geopolymer Grout Material for Geotechnical Application	Prof. Hasan Rangwala, Prof. Hiral Thakar	Nirma University	1,00,000/-
9.	Enhancement of Fire Resistance Capacity of Medium and High Strength Concrete	Prof. Sonal Thakkar	Nirma University	1,00,000/-
10.	Torsional Strengthening of Precast Connections Using Stainless Steel Wire Mesh	Prof. Sunil Raiyani, Prof. Digesh Joshi	Nirma University	1,00,000/-
11.	Development of High-Performance Quaternary Concrete: A Key Solution to Structures Built in Aggressive Climatic Environment	Prof. Vineet Kothari	Nirma University	1,00,000/-
12.	Design and Development of Sustainable Pavement Quality Concrete	Prof. Kamplimath Hemanth K G Mallikarjuna Swamy, Prof. Vineet Kothari	Nirma University	1,00,000/-
13.	Determination of Moment Curvature Relation for Reinforced Concrete Beams and Columns	Prof. Jahanvi Suthar, Prof. Utsav Koshti	Nirma University	1,00,000/-
14.	Sweep Frequency Response Analysis for Detecting Mechanical Anomalies in Induction Machine	Prof. Amrolia Hormaz Z., Prof. Samyak Shah	Nirma University	57,000/-
15.	Designing of Protective Scheme for Ring Main Distribution System	Prof. Shanker Godwal, Prof. Shivam Shrivastava	Nirma University	88,000/-

16.	Model Predictive Control of Power Electronics Converter	Prof. Swapnil Jani, Prof. Jafarullakhan Pathan	Nirma University	49,000/-
17.	Fabrication of Z-Source Inverter	Prof. Kapil N. Pattath, Prof. Rajagopal Abirami	Nirma University	66,200/-
18.	Implementation of STATCOM on Fabricated 1-Phase Transmission Line	Prof. Sarika Kanojia, Prof. Chintan Patel	Nirma University	83,000/-
19.	Design Analysis and Implementation of DC/DC Converter and Two Level VSC for Renewable Energy System	Prof. Chankya Bhatt, Prof. Karri V Satyanarayana	Nirma University	70,000/-
20.	An Energy Efficient Indoor Security System for Surveillance	Prof. Dipesh Panchal	Nirma University	55,000/-
21.	Agriculture Crop Disease Detection System Using Machine Learning	Prof. Ruchi Gajjar	Nirma University	1,00,000/-
22.	Development and Testing of Fractional Order Control Algorithms for Self- Balance Robot	Prof. Sandip Mehta	Nirma University	1,00,000/-
23.	Application of Imaging Techniques in Concrete Damage Characterization	Prof. Harsh Kapadia	Nirma University	1,00,000/-
24.	Performance Evaluation of Rectangular and Circular Clarifiers for Wastewater Treatment Plant	Prof. Nital Patel	Nirma University	67,000/-
25.	Rain Sensing Automatic Retractable Laundry Shade	Prof. Saurin Parikh	Nirma University	1,00,000/-
26.	Experimental Investigations on Effects of Sediment Erosion on Pump as Turbine	Prof. Roshankumar Tandel, Prof. Sanjay Jain	Nirma University	1,00,000/-
27.	Enhancement of A Downdraft Gasifier Performance with Lignite Feedstock	Prof. Darshit Upadhyay	Nirma University	1,00,000/-
28.	Design and Development of Multi Branch Heat Pipe and its Charging Set-Up	Prof. Anand Bhatt, Prof. Sanjay Jain	Nirma University	1,00,000/-
29.	Formability Study of Aluminum Alloy in Hole Flanging Operation by Incremental Sheet Metal Forming	Prof. Rudreshkumar Makwana	Nirma University	51,000/-

30.	Experimental Investigation on Microwave Based Metal Casting	Prof. Shruti Bhatt	Nirma University	80,000/-
31.	To Develop an Enhanced Power Control and Storm Security Device for A Scaled Down Model of Savonious Wind Rotor	Prof. Ath Singhal	Nirma University	1,00,000/-
32.	Digital India: Smart Parking System	Prof. Vaishali Dhare	Nirma University	51,000/-
<b>Total Grant</b>				<b>35,94,000/-</b>

### **Ongoing Minor Research Projects**

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Design & Fabrication of Permanent Magnet Motor for Electric Vehicle	Prof. Amit Patel, Prof. Tejas Panchal	Duke Plasto Technique Pvt. Ltd.	77,900/-
2.	Socio-Economic Status of Private Security Guard in Residential and Non-Residential Premises: A Case Study of Ahmedabad City of The State of Gujarat	Prof. Samir Mahajan	Nirma University	94,500/-
3.	Sedimentation Study of Magnetorheological Fluids (MRFS)	Prof. Hiren Prajapati	Nirma University	1,00,000/-
4.	Synthesis and Characterization of Magnetically Hard/Soft - SRM/NI Ferrite Nano Composites	Prof. Chetna Chauhan, Prof. Tanuj Gupta	UGC-DAE	87,400/-
5.	Design, fabrication and investigations of an improved biomass Cook stove for rural development	Prof. Darshit Upadhyay, Prof. Shebaz Memon	Nirma University	1,00,000/-
<b>Total Grant</b>				<b>4,59,800/-</b>

### **Sanctioned Minor Research Projects**

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Experimental Free Space Optical Communication Link	Prof. Hardik Joshi	Nirma University	92,500/-
2.	Study of Microcapsules for Self-Healing Concrete	Prof. Sonal Thakkar	Nirma University	1,00,000/-

3.	Feasibility Studies for the use of Recycled Concrete Aggregates and Manufactured Sand in Highway Concrete Pavements	Prof. Hemanth Kamplimath, Prof. Vineet Kothari	Nirma University	1,00,000/-
4.	Waste Water Treatment Using Membrane Bio-Reactor (MBR)	Prof. Hasan Rangawala, Prof. Karishma Hingnekar	Nirma University	1,00,000/-
5.	Number Plate and Seat Belt Detection in Car Surveillance Images Using Deep Learning	Prof. Rupal Kapdi, Prof. Pimal Khanpura	Nirma University	53,000/-
6.	Automatic Helmet Detection and Gate Opening for Nirma University	Prof. Vishal Parikh, Prof. Malaram Kumhar	Nirma University	49,500/-
7.	Development of eco- friendly green indicator for volumetric titration methods	Prof. Ankur Dwivedi, Prof. Amita Chaudhary	Nirma University	1,00,000/-
8.	Development of low-cost method for breaking kinetically stable emulsions	Prof. Amita Chaudhary, Prof. Ankur Dwivedi	Nirma University	1,00,000/-
9.	IoT based Pest Control System	Prof. Smita Agrawal, Prof. Preeti Kathiria	Nirma University	99,500/-
10.	Predictive model for depression level detection in youngsters	Prof. Jigna Patel, Prof. Jitali Patel	Nirma University	52,000/-
11.	Automatic Student Attendance System Using Face Recognition	Prof. Bhavin Kakani, Prof. Rutul Patel	Nirma University	59,000/-
12.	Machine Learning Approach for Source Separation in Hearing AIDS	Prof. Manish Patel	Nirma University	1,00,000/-
13.	Automated Marksheet Generation Through Handwritten Character Recognition	Prof. Rutul Patel, Prof. Bhavin Kakani	Nirma University	57,000/-
14.	Design of walking mechanism for a multi-legged robot	Prof. Jatin Dave, Prof. Akash Meckwan	Nirma University	1,00,000/-
15.	Tool wearing monitoring using computer vision techniques	Prof. Prashant Bagga, Prof. Mayur Makhseena	Nirma University	1,98,000/-
<b>Total Grant</b>				<b>13,60,500/-</b>

## Research Publications

### Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Bhavsar M., Prasad V., "Preserving Sla Parameters for Trusted IaaS Cloud: An Intelligent Monitoring Approach" *Recent Patents on Engineering* 13(38) (2019): 1-11.
2. Bansal S. et al. "Automation of Disease Detection of Plant Leaf Using Single Board Computer and Internet of Things" *Sensor Letters* 17(4) (2019): 306-311.
3. Kanojia S. and Rajyaguru S. "Reactive Power Compensation for LV Distribution Network" *International Journal of Innovative Technology and Exploring Engineering* 8(6) (2019): 1734-1741.
4. Shah D. B.I., Pariyal V. "Thermo-Mechanical Characterization of Carbon Fiber Composites with Different Epoxy Resin Systems" *Therochimica Acta* 676(1) (2019): 39-46.
5. Ruparelia J. P. and Saxena P. P. "Influence of Supporting Electrolytes on Electrochemical Treatability of Reactive Black 5 Using Dimensionally Stable Anode" *Journal of the Institution of Engineers (India): Series A* 100(2) (2019): 299-310.
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Sr. No.	Name of the Faculty	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Pradeep Kumar Singh, Wieslaw Pawlowski, Sudeep Tanwar	Proceedings of first International Conference on Computing, Communications, and Cyber-Security (IC4S 2019)	Springer Singapore	978-981-153-369-3	2019
2.	Pradeep Kumar Singh, Sudeep Tanwar, Arpan Kar	Proceedings of ICRIC 2019- Recent Innovations in Computing, Book Series Title: Lecture Notes in Electrical Engineering	Springer International Publishing,	978-303-029-407-6	2019
3.	Sudeep Tanwar, Sudhanshu Tyagi, Neeraj Kumar	Security and Privacy of Electronics Healthcare Records	The IET Book Series on E-Health Technologies, Institution of Engineering and Technology,	978-178-561-898-7	2019
4.	Sudeep Tanwar, Sudhanshu Tyagi, Neeraj Kumar	Multimedia Big Data Computing for IOT Applications: Concepts, Paradigms and Solutions	Springer Nature Singapore Pvt. Ltd.	978-981-138-759-3	2019
5.	Amisha Naik, Nilesh Patel	A Low Jitter Low Phase Noise Wideband Digital Phaselock Loop	Lambert Academic Publisher	978-620-023-210-6	2019
6.	Dhiren Pandit	Numerical Analysis	Kanak Prakashan	978-938-945-716-2	2019
7.	Ratna Rao	Learner'S Book-2	Amity University Press	978-938-676-255-9	2019

## Books Chapters Published

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Viraj Parekh, Karan Asnani, Yashraj Bhatt	Comparison Between Critical Path Method (CPM) and Last Planner System (LPS) for Planning and Scheduling Metro Rail Project of Ahmedabad	Lecture Notes in Civil Engineering	Springer Nature Singapore PTE. LTD.	2366-2565/978-981-15-08028	2019
2.	Viraj Parekh, Kushal Solanki, Nishit Prajapati	Application of Six Sigma on Metro Rail Construction Project	Lecture Notes in Civil Engineering	Springer Nature Singapore PTE. LTD.	2366-2565/978-981-15-08028	2019
3.	Prasad Vivek, Kumar Sahdeo, Anuja Nair, Sudeep Tanwar	Errors in Software	Instant Approach to Software Testing: Principles, Applications, Techniques and Practices	BPB Publication, India	978-93 8-851-116-2	2019
4.	Sapan Mankad, Sanjay Garg, Nikunj Dalsaniya	Development of A Novel Database in Gujarati Language for Spoken Digits Classification	Advances in Signal Processing and Intelligent Recognition Systems	Springer	978-981-154-828-4	2020
5.	Sumit Kumar Gupta, Sachin Kumar, Sudhanshu Tyagi	Energy Efficient Routing Protocols for Wireless Sensor Network	Handbook of Wireless Sensor Networks: Issues and Challenges in Current Scenario'S	Springer International Publishing	978-303-040-304-1	2020
6.	Jitali Patel , Jigna Patel	Deep Reinforcement Learning Based Personalized Health	Deep Learning Techniques for Biomedical and Health Informatics	Springer	978-303-033-966-1	2019

		Recommendations				
7.	Pimal Khanpara, Sudeep Tanwar	Additive Manufacturing-Concepts and Technologies	A Roadmap to Industry 4.0 : Smart Production, Sharp Business and Sustainable Development	Springer	978-303-014-544-6	2019
8.	Kruti Lavingia, Sudeep Tanwar	Augmented Reality and Industry 4.0	A Roadmap to Industry 4.0 : Smart Production, Sharp Business and Sustainable Development	Springer	978-303-014-544-6	2020
9.	Sudeep Tanwar, Sudhanshu Tyagi, Neeraj Kumar	Ethical, Legal, and Social Implications of Biometrics Technologies	Biometric-Based Physical and Cybersecurity Systems,, Springer Nature Switzerland AG.	Springer	978-331-998-734-7	2019
10.	Neha Sisodiya, Nitant Dube, Priyank Thakkar	Next-Generation Artificial Intelligence Techniques for Satellite Data Processing	Artificial Intelligence Techniques for Satellite Image Analysis	Springer	978-303-024-177-3	2020
11.	Anitha Modi, Priyanka Sharma	Self: A Deep Neural Network Based Multimodal Sequential Late Fusion Approach for Human Emotion Recognition	Advances in Computing and Data Sciences	Springer	978-981-139-939-8	2019
12.	Shruti Jadon, Rama Shankar Yadav	Scheduling of Aperiodic Tasks on Multicore Systems (In Press)	Handling Priority Inversion in Time-Constrained Distributed Databases	IGI Global	978-179-982-491-6	2019

13.	Sapan Mankad, Sanjay Garg, Megh Patel	Investigating Feature Reduction Strategies for Replay Antispoofing in Voice Biometrics	Lecture Notes in Computer Science	Springer	978-303-034-872-4	2019
14.	Akhilesh Panwar, G. Sharma, Nasiruddin I.	Jaya-Evaluated Frequency Control Design for Hydroelectric Power System Using RFB and UPFC	Intelligent Computing Techniques for Smart Energy Systems	Springer	978-981-150-214-9	2019
15.	Dhara Mungra, Anjali Agrawal, Ankitkumar Thakkar	A Voting-Based Sentiment Classification Model	Advances in Intelligent Systems and Computing	Springer	978-981-138-617-6	2019
16.	Kinjal Chaudhari, Ankitkumar Thakkar	Travelling Salesman Problem: An Empirical Comparison Between ACO, PSO, ABC, FA And GA	Advances in Intelligent Systems and Computing	Springer	978-981-136-000-8	2019
17.	Divya Rajput, Ankitkumar Thakkar	A Survey on Different Network Intrusion Detection Systems and Countermeasure	Emerging Research in Computing, Information, Communication and Applications	Springer	978-981-136-000-8	2020
18.	Jaiprakash Verma, Sapan Mankad, Sanjay Garg	A Graph Based Analysis of User Mobility for A Smart City Project	Communications in Computer and Information Science	Communications In Computer And Information Science	186-509-29	2019
19.	Preksha Anil Pareek	A Comparative Study of Machine Learning Techniques for Emotion Recognition	Emerging Research in Computing, Information, Communication and Applications	Srpinger	978-981-136-001	2019

20.	Kevin Vora, Shashvat Shah, Harshad Harsoda	Necessary Precautions in Cognitive Tutoring System	Advances in Intelligent Systems and Computing	Springer	978- 981- 138- 617-6	2019
21.	Rohan Pillai, Oza Parita Rajiv, Priyanka Sharma	Review of Machine Learning Techniques in Health Care	Lecture Notes in Electrical Engineering	Springer	187- 611- 00	2020
22.	Malaram Kumhar, Gaurang Raval, Vishal Parikh	Quality Evaluation Model for Multimedia Internet of Things (MIOT) Applications: Challenges and Research Directions	Advances in Intelligent Systems and Computing	Springer	978- 303- 039- 874-3	2020
23.	Karansingh Chauhan, Hrishikesh Patel, Ridham Dave	Advances in Single Image Super- Resolution: A Deep Learning Perspective	Lecture Notes in Networks and Systems	Springer	978- 981- 153- 368-6	2019
24.	Ankit Sharma, Dipak Adhyaru, Tanish Zaveri	A Survey on Devanagari Character Recognition	Smart Systems and IOT: Innovations in Computing	Springer	978- 981- 138- 406-6	2019
25.	Patel Nital Sanjay	Soft-Sensor for TSS in Effluent of Primary Clarifier of Industrial Effluent Treatment Plant	Smart Technologies for Energy, Environment and Sustainable Development	Springer	978- 981- 136- 143-7	2020
26.	Raj Desai, Abhishek Gandhi, Smita Agrawal	Iot-Based Home Automation with Smart Fan and AC Using NODEMCU	Lecture Notes in Electrical Engineering	Springer	978- 303- 029- 406-9	2020
27.	Vellala Paramasivan Sivasooriyan	Inclusive Growth Outcome in India: A Comparative Study of Major Indian States	The Magnificance of Humbles	Institute of Self Reliance, Bhubanes hwar	978- 819- 079- 380-3	2019

28.	Bijal Yeolekar, Nita Shah, Zalak Ashvinkumar Patel	Mathematical Model to Analyze Effect of Demonetization	Mathematical Models of Infectious Diseases and Social Issues	IGI Global	978-179-983-741-1	2019
29.	Mayurkumar Makhesana, K. M. Patel, Anand S. Patel	Applicability of CAF2 Solid Lubricant Assisted Minimum Quantity Lubrication in Turning for Sustainable Manufacturing	Advances in Forming, Machining and Automation	Springer	978-981-329-416-5	2019
30.	Anand S. Patel, Mayurkumar Makhesana, K. M. Patel	Investigative Study of Temperature Produced During Turning Operation Using MQL and Solid Lubricants	Advances in Forming, Machining and Automation	Springer	978-981-329-416-5	2019
31.	Dhaval Patel, Karan Dutt, S. B. Soni	Hertzian Contact Stress Analysis in Roller Power Transmission One-Way Clutch by Using Finite Element Analysis	Advances in Intelligent Systems and Computing	Springer Nature	978-981-138-195-9	2019
32.	Shrey Patel, Dhaval Shah, Shashikant Joshi	Estimation of Distortion for CFRP Antenna Reflector During Autoclave Processing	Advances in Computational Methods in Manufacturing	Springer	978-981-329-071-6	2019
33.	Gajjar Tushar, Dhaval Shah, Shashikant Joshi,	Investigation on Dimensional Accuracy for CFRP Antenna Reflectors Using Autoclave and Vartm Processes	Advances in Computational Methods in Manufacturing	Springer	978-981-329-071-6	2019
34.	Anand S. Patel	Improvement in Inter-Departmental Services Using	VUCA Challenges: Sustainability	American Society For Quality	978-819-302-164-4	2019

		Kaizen Philosophy at Educational Institute: A Case Study	Through Quality	Indian Pvt. Ltd.		
35.	Mayurkumar Makhesana, K. M. Patel,	Experimental Investigations and Selection of Solid Lubricant Assisted Lubrication Strategy in Machining with the Use of Promethee	Advances in Intelligent Systems and Computing	Springer	978-981-138-195-9	2019
36.	Mihir Joshi, Femina Patel, Sanjay Patel, Niraj Shah	Hydraulic Design of Diffuser of Catalytic Converter	Smart Technologies for Energy, Environment and Sustainable Development	Springer	978-981-136-148-7	2019
37.	Anant Patel	Rainfall-Run of Modelling and Simulation Using Remote Sensing and Hydrological Model for Banas River, Gujarat, India	Advances in Water Resources Engineering and Management, Select Proceedings of TRACE 2018	Springer	978-981-138-180-5	2019
38.	Alka Shah	Improving the Soil Subgrade with Plastic Waste Reinforcement —An Experimental Study	Advances in Sustainable Construction Materials and Geotechnical Engineering, Select Proceedings of TRACE 2018	Springer	978-981-137-479-1	2019
39.	Shanker Godwal, Kartik S Pandya, Vipul Rajput	A Review on Approaches Employed for Solving Directional over Current Relays Coordination Problem	Lecture Notes in Electrical Engineering, Advances in Electric Power and Energy Infrastructure	Springer	978-981-150-206-4	2020

## Papers in Conference Proceedings

Sr. No.	Name of the Faculty	Paper Title and Proceedings	Name of Publishing House	ISBN	Year of Publication
1.	Shruti Bhatt, Nalinbhai, Shivansh Suthar, Dhruv Mistry	Experimental Study on Effect of Susceptor and Separator Materials on Microwave Melting of Lead Metal	Materials Today: Proceedings Elsevier	2214-7853	2020
2.	Prayag Desai, Vishwajeetsinh Rahevar, Absar Lakdawala, Niraj Shah	Optimization of Microchannel with Dovetail Ribs at Sidewalls for Maximum Convective Heat Transfer and Minimum Pressure Drop with Conjugate Heat Transfer	Begell House Digital Library	978-1-56700-497-7	2019
3.	Keval Jodhani, Pulkit Bansal, Priyadarshana Jain	Shoreline Change Observations in Gulf of Khamhat using Satellite Images	Conference Proceeding Elsevier SSRN	Nil	2020
4.	Anant Patel, Prutha Patel, Sapna Bablani	Impact assessment of urbanization and industrialization using Water Quality index on Sabaramati River, Ahmedabad	Conference Proceeding Elsevier SSRN	Nil	2020
5.	Anant Patel, Nisarg Kotecha	Impact assessment of Urban flood in surat city using HECHMS and GIS	Conference Proceeding Elsevier SSRN	Nil	2020
6.	Digesh Joshi, Parthav Patel, Sagar Tejani, Darshan Vora	Testing of Steel Braced Frame subjected to Monotonic Lateral Loading	The Institution of Engineers (India) e-proceedings	Nil	2019
7.	Parul Patel	Gamma Naught Stability Assessment of Distributed Target Sites using L and S Band Data	Souvenir of 4th ISSE National Conference - 2019, published by Space Application Center, ISRO	Nil	2019

8.	Smit Solanki, Mihir Trivedi, Poornesh Rawal, Siddharthsingh Chauhan, P. N. Tekwani	Performance Analysis of Two-Level As-Well-As Three-Level T-NPC Inverter Based Distributed Generation with Voltage Compensation Capability 21 <sup>st</sup> European Conference on Power Electronics and Applications (EPE '19 ECCE Europe)	Institute of Electrical and Electronics Engineers (IEEE)	978-9- 0758- 1531-3	2019
9.	P. N. Tekwani, Siddharthsingh Chauhan, Kamaljit singh, Selarka Viraj, Shah Prem	Hybrid Technique for DC-link Capacitor Voltage Balancing in Entire Operating Range of Five-Level NPC Inverter using Redundancy of Switching States and Two-quadrant DC-DC Converter Technologies for Sustainable Development: Proceedings of the 7th Nirma University International Conference on Engineering (NUiCONE 2019)	CRC Press	978- 036- 733- 737-7	2019
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11.	Annima Gupta, Akhilesh Panwar, Akhilesh Nimje	Analysis of Circuit Parasitics in DC-DC Converters Technologies for Sustainable Development: Proceedings of the 7 <sup>th</sup> Nirma University International Conference	CRC Press	978- 036- 733- 737-7	2019

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12.	Manisha Shah, Tushar, Ekansh Dadheech, Abhishek Singh Naruka	Generalized Sector Detection Scheme For Space Vector Modulation Based Modular Multi- Level Inverter Technologies for Sustainable Development: Proceedings of the 7th Nirma University International Conference on Engineering (NUiCONE 2019)	CRC Press	978- 036- 733- 737-7	2019
13.	Chintan Mehta, Prasad Deshpande, Bhavik Nathani, S. C. Vora	Effect of Synthetic Inertia Controller on Frequency Response in A Multi- Machine Power System With High Penetration of Renewable Energy Sources Technologies for Sustainable Development: Proceedings of the 7 <sup>th</sup> Nirma University International Conference on Engineering (NUiCONE 2019)	CRC Press	978- 036- 733- 737-7	2019
14.	Kathan Shah, Kuntal Bhattacharjee, S. D. Godwal	Solving of Economic Load Dispatch Using Efficient Group Leader Optimization Technique Technologies for Sustainable Development: Proceedings of the 7 <sup>th</sup> Nirma University International Conference on Engineering (NUiCONE 2019)	CRC Press	978- 036- 733- 737-7	2019
15.	Karri V, V Satyanarayana,C hirag Raval,,Chintal Patel	A Reduced Switch Count Nine-Level Cascaded- Transformer Multilevel Inverter 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)	Institute of Electrical and Electronics Engineers (IEEE)	978- 172- 812- 120-8	2019

16.	Shah Manisha Tushar, Dhrumil Daftary	Design and Analysis of Hybrid Active Power Filter for Current Harmonics Mitigation 16 <sup>th</sup> IEEE India Council International Conference (INDICON 2019)	IEEE INDICON	978-1-7281-2327-1	2019
17.	Karri V, Satyanarayana,C hirag Raval	Speed Control of Induction Motor By V/F Method Using an Improved Multilevel Module Multilevel Converter Topology Proceedings ICRDETMS-2019 International Conference on Research & Developments in Engineering & Technology, Management & Sciences	International Association of Research and Developments in Engineering and Technology	978-167-703-179-5	2019
18.	Kumar Virvani, Gaurang Chauhan, Ramkrishna Mishra, S. C. Vora	Pre-Magnetizing of Transformer Core for Inrush Current Restraint-New Proposals Proceedings of National Conference on Transformers and Allied Equipment	CPRI, Bengaluru	NA	2019
19.	Kavita Tewani	Sarcasm Detection Using Multiple Occurrences of Emojis and Hashtagged Words, Advances in Computational Intelligence and Informatics	Springer, Singapore	978-981-153-337-2	2020
20.	Umesh Bodkhe, Jay Chaklasiya, Pooja Shah	Markov Model for Password Attack Prevention Proceedings of First, International Conference on Computing, Communications, and Cyber-Security (IC4S 2019)	Springer, Singapore	978-981-153-369-3	2020
21.	Hrishikesh Vachhani, Mohammad S. Obiadat, Arkesh Thakkar	Machine Learning Based Stock Market Analysis: A Short Survey, Innovative Data Communication	Springer, Cham	978-303-038-040-3	2020

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22.	Shambhavi Misra, Pawan Singh, Tanwar Sudeep Janardhan	Sensor'S Energy and Performance Enhancement Using Libp in Contiki With Cooja, Springer 2 <sup>nd</sup> International Conference on Innovative Computing and Communication (ICRIC-2019)	Springer	978-981-150-324-5	2020
23.	Sumit Kumar Gupta, Sachin Kumar, Sudhanshu Tyagi	Dynamic Distance Based Lifetime Enhancement Scheme for HWSN, Springer 2 <sup>nd</sup> International Conference on Recent Innovations in Computing (ICRIC-2019)	Springer	978-3-030-29407-6	2020
24.	Jay Gandhi, Zunnun Narmawala	Fair Comparative Analysis of Opportunistic Routing Protocols: An Empirical Study, Advances in Intelligent Systems and Computing	Springer	978-981-150-132-6	2019
25.	Kavita Tewani	Pronominal Anaphora Resolution in Hindi Language Using Number Agreement and Animistic Knowledge, Proceedings of the 2 <sup>nd</sup> International Conference on Communication, Devices and Computing	Springer	978-981-150-828-8	2019
26.	Hetul Patel, Nita Bhagia, Tarjni Vyas	Crop Identification and Discrimination Using Aviris-NG Hyperspectral Data Based on Deep Learning Techniques, IEEE International Geoscience and Remote Sensing Symposium	IEEE	372-837-31	2019
27.	Pronaya Bhattacharya, Sudeep Tanwar, Rushabh Shah	Mobile Edge Computing Enabled Blockchain Framework- A Survey, Lecture Notes in Electrical Engineering	Springer, Cham	187-611-00	2019
28.	Bhattacharya Pronaya, Amod	A Proposed Buffer Based Load Balanced Optical	Springer Cham	187-611-00	2019

	Kumar Tiwari, Akhilesh Ladha	Switch In Modern Optical Datacenters, Lecture Notes in Electrical Engineering			
29.	Arunendra Singh, Richa Singh, Pronaya Bhattacharya	Modern Optical Data Centers: Design Challenges and Issues, Algorithms for Intelligent Systems	Springer, Cham	252- 475-65	2020
30.	Akhilesh Ladha, Pronaya Bhattacharya, Nirbhay Chaube	Light: IOT-Based Framework for Intelligent Green Public Transportation System, Lecture Notes in Networks and Systems	Springer, Cham	978- 981- 153- 369-3	2020
31.	Hamza Abubakar Kheruwala, Jimeet Viren Shah, Jai Prakash Verma	Comparative Study of Sentiment Analysis and Text Summarization for Commercial Social Networks, Communications in Computer and Information Science	Springer	186- 509-29	2020
32.	Umesh Bodkhe, Jay Chaklasiya, Pooja Shah	Markov Model for Password Attack Prevention, Proceedings of First IC4S- 2019, Lecture Notes in Networks and Systems	Springer	978- 981- 153- 369-3	2020
33.	Manish I. Patel, SiraliSuthar, JilThakar	Survey on Image Compression using Machine Learning and Deep Learning	IEEE	978- 153- 868- 113-8	2019
34.	VaishaliDhare, Usha Mehta	Test Pattern Generator for Majority Voter based QCA Combinational Circuits Targeting MMC Defect	IEEE	978- 172- 811- 173-5	2019
35.	Dhaval J. Upadhyay , Y. N. Trivedi. Subhash Chandra Bera	Performance of SIMO System under Time- Varying Wireless Channel using Partial CSI	IEEE	978- 153- 865- 906-9	2019
36.	DharamShah, Tanish Zaveri	Hyperspectral Endmember Extraction Algorithm Using Spearman's Rank Correlation	Springer	978- 981- 155- 077-5	2019
37.	Dharam Shah, Tanish Zaveri	Energy-Based Convex Set Hyperspectral	Springer	978- 981-	2019

		Endmember Extraction Algorithm		154-015-8	
38.	Dharam Shah, Tanish Zaveri	A Novel Geo-Stat Endmember Extraction Algorithm	IEEE	978-172-811-895-6	2019
39.	<u>Dharambhai Shah,</u> <u>MadhumitaTripathy,</u> <u>Tanish Zaveri</u>	Comparison of Target Detection Techniques For Hyperspectral Images	IEEE	978-172-813-651-6	2019
40.	Dharam Shah, Tanish Zaveri	Fast Hyperspectral Subspace Identification Using Eigenvalue Based Energy Thresholding	IEEE	978-172-813-651-6	2019
41.	BhavinKakani, Ami Jobanputra, Dhruv Panchal	Design of Dual-Band Stacked MicrostripAntenna for IRNSS Receiver Applications	CRC Press	978-036-733-737-7	2019
42.	Rutul Patel	Image Super-Resolution through Quick Learning from Self-Examples	CRC Press	978-036-733-737-7	2019
43.	Nitesh Kalawani, Punit Malpani, Sachin Gajjar	Design, Development and Testing of SmaTra: A Smart Traffic Light Control System	CRC Press	978-036-733-737-7	2019
44.	Ruchi Gajjar, Tanish Zaveri, AasthaVaniawala	Estimation of Defocus Blur Radius using Convolutional Neural Network	CRC Press	978-036-733-737-7	2019
45.	Vaishali Dhare, Deeksha Agarwal	Implementation and Defect Analysis of QCA Based Reversible Combinational Circuit	CRC Press	978-036-733-737-7	2019
46.	Mihir Chauhan, Paras Savnani, Akash Mecwan, Rajesh Patel	Dynamic Modelling of a Projectile Launcher with Controlled Double Inverted Pendulum	CRC Press	978-036-733-737-7	2019
47.	HarikrishnaParmar, Usha Mehta	Test Time Reduction using Power-Aware Dynamic Clock Allocation to Scan Vectors	Springer	978-981-156-229-7	2019
48.	Dhwani Desai, Abhishek Soni, Dhruv Panchal, Sachin Gajjar	Design, Development and Testing of Automatic Pothole Detection and Alert System	IEEE	978-172-812-327-1	2019

49.	Pranjal Shrivastva, Aditi Bhatanagar, Jaivik Desai, Sachin Gajjar	DDAS: Distributed Data Acquisition System using Wireless Sensor Networks	IEEE	978-1-7281-2327-1	2019
50.	Sanket Chaudhary, Dhaval Pujara, Jay Gupta and Hitesh Pandya	Corrugated Horn Antenna as Mode Transition for Millimeter-wave Plasma Diagnostics System	IEEE	978-172-812-577-0	2019
51.	Jay Gupta, Dhaval Pujara	Optimization of Profile Conical Horn Antenna using Mirror Image Geometry	IEEE	978-172-813-517-5	2019
52.	Sarthak Seth, Dhruv Mathur, Yogesh Trivedi	Performance Characterization of Equalization Techniques in MIMO System under Co-channel Interference and Spatial Correlation'	IEEE	978-172-812-791-0	2020
53.	Yogesh N Trivedi, Dhaval Upadhyay	Performance Evaluation of Mimo Under Time-Varying and Spatially Correlated Channels with Feedback Delay	Nirma University	978-036-733-737-7	2019
54.	Zaveri Tanish, Hemal Dharam Shah	Hyperspectral Endmember Extraction Using Band Quality	IEEE	978-172-812-328-8	2019
55.	Chauhan Chetna, Chaturbhai, Abhisek Gor, Tanuj Gupta	Investigation of Structural and Microstructural Properties of Heametite Synthesized in Presence of Oleic Acid	Department of Physics, Government of Engineering Colleger, Bikaner	978-073-541-976-6	2019
56.	Divyanshu Tak, Paras Savnani, Aysh Jain, Akash Mecwan	Modelling, Design and Control of a Four-wheel Holonomic Drive	IEEE	978-1-7281-5475-6	2020
57.	Paras Shavnani, Ayush Jain, Divaynshu Tak, Akash Mecwan	Path Tracing in Holonomic Drive System with Reduced Overshoot using Rotary Encoders	IEEE	978-172-815-475-6	2020
58.	Trivedi Jay, Yash Shamnani, Ruchi Gajjar	Plant Leaf Disease Detection using Machine Learning	Springer	978-981-157-219-7	2020
59.	Dharam Shah, Tanish Zaveri	Hyperspectral Endmember Extraction	Springer	978-981-	2020

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60.	Varun Kumar, Mangal Singh, Sarat Kumar Patra, Poonam Singh	Hybrid CR Network: An Approach Based on Interweave and Underlay Type CR Network	Springer	978-981-157-030-8	2020
61.	Yogesh Trivedi, Nagarlal Khushboo Sinha	Cooperative Spectrum Sensing with Improved Absolute Value Cumulation Detection Based on Additive Laplacian Noise in Cognitive Radio	NIT Arunachal Pradesh	978-981-157-030-8	2020
62.	Manish I. Patel, Sirali Suthar, Jil Thakar	Survey on Image Compression using Machine Learning and Deep Learning	IEEE	978-153-868-113-8	2019
63.	Vaishali Dhare, Usha Mehta	Test Pattern Generator for Majority Voter based QCA Combinational Circuits Targeting MMC Defect	IEEE	978-172-811-173-5	2019
64.	Dhaval J. Upadhyay , Y. N. Trivedi, Subhash Chandra Bera	Performance of SIMO System under Time-Varying Wireless Channel using Partial CSI	IEEE	978-153-865-906-9	2019
65.	Dharam Shah, Tanish Zaveri	Hyperspectral Endmember Extraction Algorithm Using Spearman's Rank Correlation	Springer	978-981-155-077-5	2019
66.	Dharam Shah, Tanish Zaveri	Energy-Based Convex Set Hyperspectral Endmember Extraction Algorithm	Springer	978-981-154-015-8	2019
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68.	Dharambhai Shah, Madhumita Tripathy, Tanish Zaveri	Comparison of Target Detection Techniques For Hyperspectral Images	IEEE	978-172-813-651-6	2019
69.	Dharam Shah, Tanish Zaveri	Fast Hyperspectral Subspace Identification Using Eigenvalue Based Energy Thresholding	IEEE	978-172-813-651-6	2019

70.	BhavinKakani, Ami Jobanputra, Dhruv Panchal	Design of Dual-Band Stacked Microstrip Antenna for IRNSS Receiver Applications	CRC Press	978-036-733-737-7	2019
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75.	Mihir Chauhan, Paras Savnani, Akash Mecwan, Rajesh Patel	Dynamic Modelling of a Projectile Launcher with Controlled Double Inverted Pendulum	CRC Press	978-036-733-737-7	2019
76.	HarikrishnaParmar, Usha Mehta	Test Time Reduction using Power-Aware Dynamic Clock Allocation to Scan Vectors	Springer	978-981-156-229-7	2019
77.	Dhwani Desai, Abhishek Soni, Dhruv Panchal, Sachin Gajjar	Design, Development and Testing of Automatic Pothole Detection and Alert System	IEEE	978-172-812-327-1	2019
78.	Pranjal Shriwastva, Aditi Bhatanagar, Jaivik Desai, Sachin Gajjar	DDAS: Distributed Data Acquisition System using Wireless Sensor Networks	IEEE	978-172-812-327-1	2019
79.	Sanket Chaudhary, Dhaval Pujara, Jay Gupta and Hitesh Pandya	Corrugated Horn Antenna as Mode Transition for Millimeter-wave Plasma Diagnostics System	IEEE	978-172-812-577-0	2019
80.	Jay Gupta, Dhaval Pujara	Optimization of Profile Conical Horn Antenna using Mirror Image Geometry	IEEE	978-172-813-517-5	2019

81.	Sarthak Seth, Dhruv Mathur, Yogesh Trivedi	Performance Characterization of Equalization Techniques in MIMO System under Co-channel Interference and Spatial Correlation'	IEEE	978-172-812-791-0	2020
82.	Yogesh N Trivedi, Dhaval Upadhyay	Performance Evaluation of Mimo Under Time-Varying and Spatially Correlated Channels with Feedback Delay	Nirma University	978-036-733-737-7	2019
83.	Zaveri Tanish, Hemal Dharam Shah	Hyperspectral Endmember Extraction Using Band Quality	IEEE	978-172-812-328-8	2019
84.	Divyanshu Tak, Paras Savnani, Ayush Jain, Akash Mecwan	Modelling, Design and Control of a Four-wheel Holonomic Drive	IEEE	978-172-815-475-6	2020
85.	Paras Shavnani, Ayush Jain, Divaynshu Tak, Akash Mecwan	Path Tracing in Holonomic Drive System with Reduced Overshoot using Rotary Encoders	IEEE	978-172-815-475-6	2020
86.	Trivedi Jay, Yash Shamnani, Ruchi Gajjar	Plant Leaf Disease Detection using Machine Learning	Springer	978-981-157-219-7	2020
87.	Dharam shah, Tanish Zaveri	Hyperspectral Endmember Extraction Algorithm Using Convex Geometry and K-Means	Springer	978-981-157-219-7	2020
88.	Varun Kumar, Mangal Singh, Sarat Kumar Patra, Poonam Singh	Hybrid CR Network: An Approach Based on Interweave and Underlay Type CR Network	Springer	978-981-157-030-8	2020
89.	Trivedi Yogesh Nagarlal Khushboo Sinha	Cooperative Spectrum Sensing with Improved Absolute Value Cumulation Detection Based on Additive Laplacian Noise in Cognitive Radio	NIT Arunachal Pradesh	978-981-157-030-8	2020
90.	Bhautik G. Patoliya, Digesh D. Joshi and Paresh V. Patel	Finite Element Modeling and Analysis of Precast Dry Connection under Progressive Collapse Scenario.	ICCMS 2019 organized by Indian Institute of Technology Mandi. (e-proceedings)	-	2019

91.	Prof. C. J. Joshi	Experimental study on retaining wall with narrow cohesion less backfill using arching theory	ASCE - Geo-Congress 2020.	97807-44828-41	2020
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### Patents Published

Sr. No.	Name of the Inventors	Title of the Patent	Year	Status
1.	Dr. Saurin Parikh	A System and a Method for Content Driven Automatic Retraction of Shade Cover	2019	Published

### Patents Filed

Sr. No.	Name of the Inventors	Title of the Patent	Year	Status
1.	Dr. Mihir Chauhan, Dr. Kunal Ghosh, Mr. Bhaumik Patel, Mr. Abhijitsingh Thakor.	- An Improved Antimine Vehicle with Vertical Blast Ventilation	2020	Filed

### Ph.D. Awarded

Sr. No.	Name of the Student	Name of the Guide / Supervisor	Title of Thesis
1.	Solanki Pareshkumar Mahendrabhai	Dr. Sanjay Garg	Design and Development of Privacy Preserving Techniques for Data Stream Mining
2.	Patel Rohit Bhimjibhai	Dr. D. K. Kothari	Performance Enhancement of WDM Optical System with Coherent Detection
3.	Oza Virang Hareshchandra	Dr. N. M. Bhatt	Performance Analysis of a Solar Refrigeration System
4.	Bhatasana Piyushkumar Maganlal	Dr. Dhaval Pujara and Dr. S. C. Bera	Investigations on Low Activation RF MEMS Shunt Switches
5.	Fataniya Bhupendra Damjibhai	Dr. Tanish Zaveri	Microscopic Image Based Classification Algorithms for few Herbal Plants Identification using Machine Learning Approaches
6.	Gopi B Sanghani	Dr. K. Kotecha	Personalised Email Spam Filtering Using Support Vector Machine
7.	Nileshkumar M Gambhava	Dr. K. Kotecha	Hash Tag Clustering Using Genetic Algorithm

8.	Patel Nileshkumar Dahyalal	Dr. Amisha Naik	A Low Jitter – Low Phase Noise Wideband Digital Phase Locked Loop in Nanometer CMOS Technology
9.	Pradyumansinh Udaysinh Jadeja	Dr. K. Kotecha	Trend Identification in Microblogs
10.	Bora Leena Vijaykumar	Dr. Raju Mewada	Development of Photocatalyst for Effective Utilization of Solar Energy for Wastewater Treatment
11.	Bhatia Jitendra Bhagwandas	Dr. Madhuri Bhavsar	Design and Development of a Framework for Reliable Data Dissemination in VANET Environment using software Defined Networking and Cloud
12.	Ravindra Kumar Singh	Dr. Dhaval Pujara	Investigations on Ultra-Wideband (UWB) Monopole Antennas for Spectrum Monitoring
13.	Kalpesh Pathak	Dr. D. M. Adhyaru	Performance Analysis of Soft Computing Technique based Adaptation Mechanism for Model Reference Adaptive Control
14.	Patel Mahesh Amrutbhai	Dr. S. C. Vora	Design and Performance Analysis of a Novel Fall-back Transverse-Flux Permanent Magnet Generator for Direct-Drive Wind Power Generation.
15.	Praveen Kumar Atrey	Dr. Dhaval Pujara and Dr. Subroto Mukherjee	Design and Development of Microwave Interferometer and Reflectometer Systems for Plasma Diagnostics in Tokamak
16.	Ashok Tiwari	Dr. Urmil V. Dave	Rheological Performance of Cement Paste with Mineral Admixtures.

## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Gupta Annima	Mentoring of Engineering Teacher by INAE Fellow	INAE, IIT Delhi	Certificate and Stipend
2.	Dr. Reena Trivedi Mr. Priyam Parikh	Best Paper Award	ICMEERR 2019 4 <sup>th</sup> International Conference on Mechanical Engineering and Robotics	First Prize and Certificate

			Research, Budapest, Hungary December 16-18, 2019	
3.	Dr. S. J. Joshi	ISTE National Award for guiding best M.Tech Thesis	ISTE, New Delhi	Certificate

### Travel Grants Received by the Faculty Members

Sr. No.	Name of the Faculty Member	Purpose of the Visit	Name of the Funding Agency	Name of the Country
1.	Parekh Viraj Mukeshbhai	Paper Presentation in International Conference CIGOS 2019	CCSTDS, Chennai & Nirma University, Ahmedabad	India
2.	Mehta Usha Sandeep	To Attend the 28th IEEE Asian Test Symposium	Fellowship program of ATS 2019, Kolkata	India
3.	Pujara Dhaval Amrutbhai	To Deliver Lectures and to Explore Possibilities of Joint Research	Public University of Navarra	Spain
4.	Adhyaru Dipak Mukundray	To Attend International Conference	Nirma University	New Zealand
5.	Lakdawala Absar Mohammadhusen	To Attend 11 <sup>th</sup> International Symposium on Electrohydrodynamics	DST & NU	Russia
6.	Upadhyay Darshit Shaileshkumar	International Conference	Association of Common Wealth Universities, London, UK	Chicago, USA
7.	Dhare Vaishali Hitesh	To Present Paper at 24th IEEE European Test Symposium 2019, ETS 2019	Nirma University	Germany
8.	Jain Swati Manish	Recipient of the Faculty Fellowship teaching and joint research	SUNY, NY, Binghamton University	SUNY, NY, Binghamton

### Conferences / Seminars / Workshops / Training Programmes Organized by the Institute

#### International Conference – “NUiCONE 2019”

Nirma University International Conference on Engineering (NUiCONE) is a flagship event of the Institute of Technology, Nirma University. The conference followed the successful organization of four national conferences and six international conferences in previous years.

Nirma University Annual Research Report (April 2019 - March 2020)

This year the main theme of the conference was ‘Technologies for Sustainable Development’. NUiCONE 2019 was a multidisciplinary event encompassing 21 themes related to various disciplines of Engineering & Technology. The objective of the conference was to bring professional engineers working relentlessly for the sustainable development technologies from industry, academics, research organizations, and research scholars of matching interests on a common platform to share new ideas, experiences and knowledge in various fields of Engineering and Technology. NUiCONE 2019 was organized in association with the stalwart of publication house CRC Press, Taylor & Francis. Selected papers are published with CRC Press, Taylor & Francis. The technical program consisted of peer-reviewed paper presentations in parallel technical sessions, common invited lectures, panel discussions, session-wise expert talks.

The inauguration was blessed with the presence of three Padmashri; Chief Guest - Padmashri Shri A. S. Kiran Kumar, Vikram Sarabhai Professor at Indian Space Research Organisation (Former Chairman, ISRO), Guest of Honour – Padmashri Shri Amitava Roy, Former Distinguished Scientist & Chief Executive of Nuclear Recycle Board, Bhabha Atomic Research Centre (Mumbai) and President of the Function – Padmashri Dr. Karsanbhai Patel, President, Nirma University. Total 62 papers out of the selected 77 papers were presented during the conference. The selection was made through double blind peer review of 177 papers submitted for the conference. The Conference also covered Keynote speech by Padmashri Dr. Amitava Roy and Common invited talks by various national and international dignitaries like Dr. Abhijit Pandya, Professor, FAU, USA, Dr. Javed Hashemi, Professor, FAU, USA, Prof. D. P. Agrawal, Ex Chairman, Union Public Service Commission of India.



Inauguration ceremony of NUiCONE-2019

### **Two-Day Workshop on, “RISC-V Boot Camp”**

A two days workshop on ‘RISC-V Boot Camp’ was organised by the Department of Electronics and Communication Engineering. The workshop was aimed for the faculty members, research scholars, Industries and R&D personals. It included key concepts of the open RISC-V instruction set architecture and hands-on FPGA development board. More than 150 participants have attended this workshop.

The workshop was inaugurated with a keynote address by Dr. Krste Asanović, Chief Architect and the Co-Founder of SiFive through video lecture. He briefed the audience on the journey towards RISC-V foundation and its impact on upcoming future technology. Further insight on RISC-V was given by Mr. Anand Baria, Vice President, SiFive. He introduced the current application of RISC-V in the industry and the role of SiFive in making RISC-V related products.

Mr. Rajesh Varadharajan, Director, IP Engineering, SiFive discussed the different architecture of RISC V. He briefed the audience about the bus architecture used for the RISC-V and its usage with other protocols like AMBA bus architecture. He also demonstrated the design flow of SciFive studio and the configuration of available RISC-V cores.

### **Two-Day National Seminar on “5G Wireless Technology”**

5G is an upcoming fifth-generation wireless technology for cellular networks. Once this technology is fully deployed, it will revolutionise human lives. The impact of this technology will remain at the forefront of Next Generation Networks (NGN) for a long period. Considering the importance of this latest technology, the Department of Electronics and Communication Engineering, Institute of Technology, Nirma University organised a two-day national seminar on February 14-15, 2020. The seminar was coordinated by Prof Y N Trivedi, Professor, Department of Electronics and Communication Engineering, Institute of Technology. The seminar was designed for the faculty members, research scholars and R&D personals. It included key concepts of the 5G Wireless Technology, such as Radio Access Network, Physical Layer, MAC Layer, Air Interface, Spectrum and mm-Wave Implementation, Internet of Things (IoT), Multiple Access Schemes and Simulation Software for Design of 5G Systems.

The seminar was inaugurated by renowned professor and academician, Dr. Ajit Kumar Chaturvedi, Director, Indian Institute of Technology, Roorkee. Prof. Chaturvedi discussed the ‘Challenges of 5G Technology’. Prof S. S. Das from IIT-Kharagpur delivered a lecture on, ‘Evolution of Air Interface towards 5G’. Dr Sendil Kumar, General Manager-Standardization, Ericsson, Gurgaon delivered a lecture on ‘5G IMT 2020 Technology and Spectrum’. Mr Devadasa Pai, Manager, NanoCell Networks Pvt Ltd, Bangalore delivered an interesting talk on, ‘5G Radio Access Network (RAN)’ and Ms. Soundarya Venkatesan of Altair demonstrated the software ‘WinProp’ for the propagation analysis and radio channel planning of 5G.

On the second day of the programme, Mr Ashutosh Agrawal, Manager, Qualcomm, Bangalore delivered a lecture on, ‘Making 5G NR mm-wave a Commercial Reality’. Mr Rajul from Arastu System, Ahmedabad delivered a lecture on, ‘Condition-based Monitoring System using IoT’. Mr. Niraj Nanavati of Nokia, Bangalore delivered a talk on, ‘Demystifying, Standardizing and Deep-Diving 5G’. Mr. Nikhil Mitaliya, Field Application Engineer, Tektronix India Pvt. Ltd. delivered a lecture on, ‘Six Key Challenges of the Internet of Things’. Mr. Uvraj Natrajan, Senior Application Engineer, Mathworks, Bangalore delivered a lecture on, ‘Implementation of 5G with MATLAB’.

The participants were teachers from different engineering colleges across India, research scholars and industry personnel and Space Applications Centre (SAC-ISRO). All the participants have appreciated the entire programme, including the contents, delivery, interactions with the experts, etc.



Inauguration function of 5G Wireless Technology Seminar

### **Faculty Development Programme on “VLSI Chip Design Hands on using Open Source EDA”**

The Department of Electronics and Communication Engineering, Institute of Technology, Nirma University hosted one-week Faculty Development Programme (FDP) on, “VLSI Chip Design Hands-on using Open-Source EDA” from December 16-20, 2019. Prof Usha Mehta and Prof Akash Mecwan coordinated the programme. The program was offered by E & ICT Academy, MNIT-Jaipur and was fully sponsored by the Ministry of Electronics and Information Technology (MeitY). The FDP was conducted by Professors from IITs, NITs, and experts from SCL-Chandigarh. The program was attended by participants from Bharati Vidyapeeth-Pune, BNMIT-Bengaluru, Dharamsinh Desai University-Nadiad, Charusat University-Vallabh Vidyanagar, C K Pithawala Institute- Surat, Apollo Institute-Ahmedabad and Nirma University. The programme covered varied topics like Basics of RISC-V Processor-based SoC Design using MAGIC Tool, Standard Cell Library Design, Pre-layout Timing Analysis, Chip Planning and Block Level Routing using Open Source EDA, Hierarchical Placement/Routing and LVS/DRC using MAGIC and Post-Layout Timing Analysis.

### **Workshop on, “VLSI Design and Testing”**

The Department of Electronics and Communication Engineering has organised a five-day workshop on “VLSI Design and Testing” during November 04 – 08, 2019. The programme was conducted under the coordinator-ship of Dr. Akash Mecwan, and Dr. Vijay Savani, Assistant Professors, Department of Electronics and Communication Engineering, Institute of Technology, Nirma University. The programme was partially funded by the Gujarat Council of Science and Technology (GUJCOST).

The workshop received an overwhelming response with more than 100 queries for participation. Considering the hands-on training session and also ensuring effective interactions, the participation was restricted to thirty-six. The faculty members and the students from the L D College of Engineering, SVIT-Vasad, Government Polytechnic, Ahmedabad and Gandhinagar, DDIT-Nadiad, Charusat-Anand, SSEC-Bhavnagar, Government College-Rajkot and Nirma University-Ahmedabad participated in the said workshop.

The experts from the premier institutes and industry delivered talks on various aspects of the front and back end VLSI designs and related EDA tools. Dr Sudeb Dasgupta, Professor, and Head, EC Department, IIT-Roorkee, delivered a talk on the Modern Semiconductor Devices. The experts from eInfochip and Entuple Technologies also shared their expertise with the participants. The entire program was designed with an emphasis on the hands-on activities and simulations using EDA tools.

The participants gave very positive feedback about the programme and requested to organise many such programmes in the future.



Inauguration function of VLSI Design and Testing Workshop

### **Workshop on, “Hands on Training on Electronics & Automation Laboratories”**

Instrumentation and Control Engineering Department conducted workshop on “Hands on Training on Electronics & Automation Laboratories” organized during 27/5/2019 to 31/5/2019. The workshop was attended by Laboratory Assistants of Instrumentation and Control Engineering Department, Electrical Engineering Department and Electronics and Communication Engineering Department. There were hands-on sessions with primary focus on advancement of instruments and their techniques.



Hands on Training for Laboratory Supporting Staff of Electrical, EC and IC Department

### **National Seminar on, “Advances in Building Materials and Construction Practices”**

- Civil Engineering Department, Nirma University, and Nuvoco Vistas Corp. Ltd. has organized a National Seminar on “Advances in Building Materials and Construction Practices” on 22<sup>nd</sup> November 2019, under the auspices of NUiCONE 2019, the 7<sup>th</sup> International Conference on Engineering at Institute of Technology, Nirma University. Five Eminent speakers were invited from India as well as abroad. Industry professionals, academicians, practicing engineers and Civil Engineering (PG) students were invited to attend this seminar. Prof. Radhakrishna Pillai, Associate Professor, IIT Madras, has shared his views on Strategies to Prevent and Control Corrosion in Concrete Structures. Mr. Ashitkumar Shah from JICA study team, Delhi discussed Cut and Cover construction of a Metro Station. Mr. Manish Mokal, Assistant General Manager, Quality Excellence Cell at AFCONS, Mumbai has shared various case studies containing extreme engineering and construction. He also highlighted the challenges faced in Bridge Project over Chenab River in Jammu & Kashmir. Dr. Rishi Gupta, Associate Professor, University of Victoria, Canada has delivered a talk on Recent developments in the use of drones in monitoring civil infrastructure. He has talked about the research activities carried out under the IC-IMPACTS project. Mr. Pranav Desai,

Vice President – R & D, Nuvoco Vistas Corp. Ltd. has shared about various innovations and products development of Nuvoco Vista's Construction Development and Innovation Center at Mumbai.



National Seminar on, “Advances in Building Materials and Construction Practices”

### **Workshop on “Use of CHEMCAD Simulator in Chemical Engineering”**

- Two days training program during 30-31 December 2019 on “Use of CHEMCAD Simulator in Chemical Engineering” was organized under the aegis of Centre for Continuing Education, Nirma University. The program was conducted by Mr. Sanmitra Tembe, Assistant Engineering Manager, Wood PLC India, Mumbai. The training program was attended by 21 participants.

### **Workshop on “Electric Vehicle Awareness”**

The Electrical Engineering Department has organized a one-day programme on "Electric Vehicle Awareness" by ARAI, Pune under Department of Heavy Industries (Govt. of India) on February 27, 2020.

The programme was intended to give exposure on trending technologies in Electrical Vehicle, live demo and practical learning of Electric Vehicle., Chief Guest of the function. Dr. K. C. Vora, Sr. Dy. Director & Head, ARAI Academy, Pune, delivered a session on “Introduction of EVs and their advantages from economic and environment perspective”. Technical sessions on “Design of electric vehicle powertrain”, “Development of charging station ecosystem in India and different charging technologies” and “Career prospects and future scope of electric vehicles” were delivered by ARAI executives. Total 05 Electric Vehicles were demonstrated after the technical sessions. As a precursor to this programme, Department organized an essay competition of 2 hours on the topic “Electric Vehicles and its Benefits for the Society” on 26<sup>th</sup> February, 2020.



Dr. K. C. Vora delivering a talk on Application of Electric Vehicle as a Power Plant to the participants in a one day Electric Vehicle Awareness Workshop

### **Workshop on, “Advancements and challenges in Electric Vehicle,”**

One-day workshop on “Advancements and challenges in Electric Vehicle,” was organized by the Electrical Engineering Department, School of Engineering, Institute of Technology under the aegis of Centre for Continuing Education, Nirma University on March 07, 2020.

The workshop provided insight into the emerging field of Electric Vehicles. A mix of eminent industrial experts and flamboyant entrepreneur viz. Shri. B. K. Vaishya, Ex-Executive Director, Electric Vehicle Department, Electrotherm (I) Ltd., Mr. Dhairya Shah, Technical Managing Director, Mindra Solar and Shri. Jitesh Dodiya, Lead Engineer, Menza Motors Pvt. Ltd. delivered talks in the workshop which delved into the advancements and challenges concerning energy storage, charging infrastructure, powertrain, drivetrain technology in Electric Vehicles. Faculties, researchers and students working in the relevant fields were highly benefited by the workshop.



Shri. B. K. Vaishya, Ex. Director, Electric Vehicle Department, Electrotherm (I) Ltd., Ahmedabad delivering a talk on Electric Vehicles during the CCE programme on " Advancement and Challenges in Electric Vehicles "

### **Workshops on “Matlab and Psim for UG students,”**

Student research cell of EE department has carried out two workshops for UG students titled “Introduction to MATLAB” on 26/9/19 and 5/10/19 and one workshop titled “Introduction to Psim” on 17/1/2020.

These workshops were held with the aim of providing fundamental knowledge on usage of MATLAB and Psim, such that students can utilise these tools in their projects.



Prof. Hormaz Amroliya showing MATLAB coding to participants of the workshop on Introduction to MATLAB

### **Short Term Training Programmes (STTP)**

- The India Society for Technical Education (ISTE) approved Short Term Training Programmes under the aegis of the Centre for Quality Assurance and Academic Development (CQAAD) were organized during June-July 2019. Following are the details of the programmes organized by different departments.

Sr. No.	Name of the Department	Title of the Training Programme	Duration	Details of the Programme
1.	Chemical Engineering Department	Steady State and Dynamic Process Simulations in Chemical Engineering	June 24 <sup>th</sup> - July 6 <sup>th</sup> 2019	The training programme addressed the need of providing hands-on-experience on recent steady state and dynamic simulators. The steady state simulations helped the participants to understand how the chemical engineering modules (like Distillation column, reactors, boilers etc.) would behave at steady state. Dynamic simulation exposed the participants to understand how a particular unit would behave if it's facing some disturbances and how to get the unit back to its desired performance level. The mode of delivery were presentations and hands on practices. Various tools like CHEMCAD, HYSYS, HTRI, and PROSIM 2000 were included in the hands on training sessions.
2.	Electrical Engineering	Application of Software Resources in Electrical Engineering	June 24 <sup>th</sup> - July 6 <sup>th</sup> , 2019	The STTP mainly focussed on the applications of software resources to find appropriate solution in different complex electrical engineering problems for the effective control and improvement in its performance. Hands on laboratory sessions were conducted where participants solved few assigned simulation problems in different software tools and developed experiments based on their area of expertise. In order to strengthen the knowledge required for solving the complex engineering problem by use of software tools in different areas of Electrical Engineering, lecture sessions of experts from NITs, IEST, industries and reputed academic institutions were scheduled. Total 14 new experiments were developed during the STTP, which are added in the curriculum of various subjects of U.G. & P.G. programmes of Electrical Engineering.
3.	Mechanical Engineering	Hands-on-Experience in Advanced	June 24 <sup>th</sup> -	The overall objective of the STTP was to plan development of new experimental set ups with guidance of faculty members from

		Laboratory Practices in Mechanical Engineering	July 06 <sup>th</sup> , 2019	<p>reputed institutes / industry personnel. Dr. Arun Patil, Vice Chancellor, Amity University delivered the keynote address during the inauguration of the STTP. The distinguished speakers who provided insights on the topic of STTP include,</p> <ul style="list-style-type: none"> <li>i. Dr. Sanjay Mittal, Professor, IIT Kanpur</li> <li>ii. Dr. Anand Parey, Professor, IIT Indore</li> <li>iii. Dr. A A Shaikh, Professor, SVNIT Surat</li> <li>iv. Dr. Kunal Ghosh, Professor (Retd) IIT Kharagpur</li> <li>v. Mr. Parthasarthy Sasianand, Fronius Ltd. Pune</li> <li>vi. Mr. Rajendra Renji, Ducom Instruments, Bangalore</li> </ul> <p>As an outcome of this STTP, participants have developed several new experiments for various courses of UG/PG which helps in the teaching learning activity in subsequent semester.</p>
4.	Electronics and Communication Engineering	Innovative and Effective Pedagogic practices	June 24 <sup>th</sup> - July 06 <sup>th</sup> , 2019	<p>The captioned STTP was approved by ISTE and conducted by Department of Electronics and Communication Engineering, Institute of Technology, under the auspices of CQAAD Nirma University. The program was envisioned for the engineering teachers for knowing and implementing Innovative and Effective Pedagogic Practices in their subjects. The experts of the program focused on different aspects of innovative and effective pedagogical skills to help to prepare for lecture notes, assignments, tutorials, experimental setups, laboratory manuals etc. The course was also focused on curriculum design and implementation, R&amp;D initiatives for faculty members, preparation of measurable outcomes of the course, different assessment techniques, rubric-based evaluation scheme and use of modern tools in teaching. In the STTP, speakers delivered lectures on innovative pedagogic practices in pre-lunch session and interacted with participants in the post lunch session to implement the techniques in their course files.</p>

## Fulbright Specialist Programme

Dr. Claire Komives (Professor, Biomedical, Chemical & Materials Engineering, San José State, San José, CA, US) Fulbright – Nehru Scholar invited to conduct Programme at Institute of Technology.

Sr. No.	Name of the Department	Title of the Training Programme	Duration	Details of the Programme
1.	Chemical Engineering Department	Writing effective research proposals -	October 7 <sup>th</sup> , 2019	Dr. Claire possesses expertise in the domain of Educational Excellence. This workshop organized for senior faculty of Institute of Technology with objective to envisage the outcome of the project, its budget and timeline. The workshop attended by 29 participants.
2.	Chemical Engineering Department	Writing a journal paper for Engineering Education Research (EER) in your classes -	October 8 <sup>th</sup> , 2019	Dr. Claire possesses expertise in the domain of Educational Excellence. This workshop organized for senior faculty of Institute of Technology with objective to execute an effective literature search and Interpretation. The workshop attended by 29 participants.
3.	Chemical Engineering Department	Workshop on effective teaching -	October 9 <sup>th</sup> -11 <sup>th</sup> , 2019	Dr. Claire possesses expertise in the domain of Educational Excellence. This workshop organized for junior faculty of Institute of Technology with objective to design and deliver an effective lecture to ensure student engagement and motivation. The workshop attended by 36 participants

## National |Level Competition

Team CON-SOL-E 4.0 comprising of undergraduate students of Institute of Technology, Nirma University, mentored by Prof. Harsh Kapadia and Prof. Alpesh Patel represented Institute of technology Nirma University in 5<sup>th</sup> edition of Mitsubishi electric Cup held at B M S College of Engineering, Bangalore and won the Gold Cup. The team was selected in the top 35 teams. The competition is a national level automation competition for students organized by Mitsubishi Electric India every year in the month of February. This year the competition was held at B M S College of Engineering, Bangalore during 13<sup>th</sup>-15<sup>th</sup> February 2020.

The team CON-SOL-E 4.0 was selected in the top 35 teams for the project demonstration out of 270 proposal received. They had proposed their idea named TAB-INS-PACK in the competition. In line with 5<sup>th</sup> Mitsubishi Electric Cup's theme "Visualizing IOT solutions for Smart Automation", a tablet inspection and packaging solution was developed using Mitsubishi Electric factory automation components, cloud-based software, machine vision, deep neural networks (DNN) and industrial internet of things was proposed. The primary objective of the

system was to prepare an inspected and accurate tablet dosage for patient which is prescribed by the doctor via an android application or website in the form of a 7×4 tray. The solution consisted of different components like an android application and website with integrated chatbot, a well-engineered mechanical structure fabricated using SS316 material, tablet inspection using industrial camera, packaging using servo motor based XY plotter, SCADA, a quadcopter and troubleshooting chatbot.



**Team CON-SOL-E of IC department, Institute of Technology, Nirma University won the GOLD CUP at a prestigious national level competition MECUP 2020. Team got prize money worth Rs. 1,00,000 and MITSUBISHI will sponsor entire team's trip to Japan**

## Vikram Awards

Vikram Awards' by Secure Meters, Udaipur are given to the outstanding technical academic projects done by the engineering students. For the year 2019, student projects from the different Engineering departments were nominated from Nirma University for the 'Vikram Award'. The final presentations of the nominated projects were held before a jury on November 26<sup>th</sup>, 2019. The first prize was awarded to Pranjal Shrivastava, Aditi Bhatnagar, Jayvik Desai students of B.Tech Semester VII, Department of Electronics and Communication Engineering. The award constituted of a cash prize of Rs. 50,000/-, a medal and a certificate from Secure Meters, Udaipur.

Pranjal, Aditi and Jayvik under the mentorship of Dr. Sachin Gajjar, Associate Professor, Electronics and Communication Engineering had designed a Wireless Distributed Data Acquisition System (DDAS) using Zigbee based Wireless Sensor Networks to detect parameters related to industrial machine's health, industry's production line, and environmental conditions of an industry.



Pranjal Shrivastava, Jayvik Desai, Aditi Bhatnagar with their mentor Dr. Sachin Gajjar, Department of Electronics and Communication, Nirma University

### Noteworthy Research Related Events by the Department

1. Public lecture on ‘New frontier in Cloud and Edge/Fog Computing for Big Data & Internet-of-things Applications’ by Dr. Rajkumar Buyya, Professor and Director of the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia on December 20<sup>th</sup>, 2019.
2. Expert lecture on Data Science and discussion on CoE by Dr. Sang Won Yoon, Associate Professor, SUNY, Binghamton on November 11<sup>th</sup> - 15<sup>th</sup>, 2019.
3. Optimization techniques and real life application in live projects as a part of Applied Mathematics by Dr. Sang Won Yoon, Associate Professor, SUNY, Binghamton on November 11-15, 2019.

### Research Talks / Lectures Organized by the Institute

It is a regular practice at the Institute of Technology to arrange research related expert talks by eminent personalities from Industry and Academia. Following are the details of some of the talks/lectures organized by the departments under Institute of Technology.

1. ‘Spoofing Attacks in Automatic Speaker Verification (ASV): Analysis and Countermeasures’ by Dr. Hemant Patil, Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India on Feb 7<sup>th</sup>, 2020.
2. Fractional Course Lecture on ‘Image Processing and Computer Vision with Machine Learning for fractional course’ by Dr. Manjunath V. Joshi, DAITCT Gandhinagar, India on Oct 5<sup>th</sup> & 19<sup>th</sup>, 2019.
3. ‘Machine Learning as Career’ by Mr. Dhaval Mehta, Apttus Inc on April 01<sup>st</sup>, 2019.
4. ‘Database Tuning and Performance’ by Mr. Ghanshyam Borasaniya, InfoSense Global on April 12<sup>th</sup>, 2019.
5. ‘Intel Tools for Artificial Intelligence’ by Mr. Saubhik Das, Intel, Bangalore on April 20<sup>th</sup>, 2019.
6. ‘Applied Artificial Intelligence’ by Mr. Yogesh Bhatt, Ericsson on August 02<sup>nd</sup>, 2019.

7. 'Distributed Ledger Technologies and Blockchain' by Mr. Mandeep Singh, Mr. Krishnan Mohan, Bosch, Bangalore on August 30<sup>th</sup> - 31<sup>st</sup>, 2019.
8. 'Big Data Analytics: Industry Use Cases' by Mohit Agrawal, Crest Data System, Ahmedabad on November 07<sup>th</sup>, 2019.
9. "Simple Motion Controller" by Mr. Manish Chauhan, Sr. Engineer, Mitsubishi Electric India Pvt. Ltd. on September 19<sup>th</sup>, 2019.
10. "Design & Engineering: Temperature Measurement" by Mr. Amit Patel, Sr. Engineer, Linde Engineering India Pvt. Ltd on September 13<sup>th</sup>, 2019.
11. "Recent trends in industrial automation", by Mr. Jagdish Shukla, Founder, Servilink Systems Limited on August 23<sup>rd</sup>, 2019.
12. "Fundamentals of Instrumentation & Control for Chemical process plant" by Mr. Anil Pimple, Senior Manager, Instrumentation department, IFFCO, Kalol on August 09<sup>th</sup>, 2019.
13. "Embedded System Design" by Mr. Mayank V. Mevada, R&D Manager, Chemiline Technologies Pvt. Ltd., Ahmedabad, Gujarat on September 21<sup>st</sup>, 2019.
14. "Future Development in Automation Technology" by Mr. Niraj Shah, Arihant Satiata, Ahmedabad, on October 16<sup>th</sup>, 2019.
15. "R & D Prospects in the field of Cryogenics and Superconductivity" by Dr. Vipul L. Tanna, Homi Bhabha National Institute (HBNI) on November 05<sup>th</sup>, 2019.
16. "R & D Prospects of LabVIEW" by Mr. Divyesh Patel, Dover India Innovation Center, Bangalore on January 10<sup>th</sup> 2020.
17. "Industry 4.0", by Mr. Jagdish Shukla, Founder, Servilink Systems Limited on January 10<sup>th</sup> 2020.
18. 'Case Studies on Strengthening of Structures', by Mr. Amol Poplli, Technical Head, MC-Bauchemie India Pvt. Ltd., Ahmedabad on April 08<sup>th</sup>, 2019.
19. 'Advances in Concrete Technology & Glimpses of Research Activities at CSIR-AMPRI.', by Dr. Manish Mudgal, Senior Principle Scientist & Section Head, Advanced Radiation Shielding and Cement Free Concrete Group, CSIR-AMPRI, Bhopal on July 19<sup>th</sup>, 2019.
20. 'Prefabricated Mass Housing' and 'Glimpses of Research Activities at CSIR-CBRI, Roorkee' by Dr. Ajay Chourasia, Senior Principle Scientist, CSIR-CBRI, Roorkee on July 20<sup>th</sup>, 2019.
21. 'Experience Sharing on the Research Activities at BITS-Pilani' by Dr. Shamsher Bahadur Singh, Professor, Civil Engineering Department, BITS-Pilani on August 03<sup>rd</sup>, 2019.
22. 'Structural Health Monitoring using Drones' by Dr. Rushi Gupta, Associate Professor, University of Victoria, British Columbia, Canada on November 04<sup>th</sup>, 2019.
23. 'Summarizing Geotechnical Activities after the 2011 Tohoku Earthquake of Japan' by Dr. Ikuo Towhata, Professor Emeritus, Civil Engineering, University of Tokyo; Chair of Professional Image Committee, International Society for Soil Mechanics and Geotechnical Engineering and Director, Tohata Architects & Engineers on December 23<sup>rd</sup>, 2019.
24. 'Converting Waste to Energy', by Dr. Beena Patel, Head, Research & Development, Abellon Clean Energy Limited, Ahmedabad on January 23<sup>rd</sup>, 2020.
25. 'Plastic Waste Recycling and relevant Technologies' by Mr. Sudhir Shah, Saltech Design Labs Private Limited, Ahmedabad on on January 23<sup>rd</sup>, 2020.
26. 'Case Studies on 'Repair and Retrofitting of Structures', by Mr. Kaizad Engineer, Technical Director, Ushta Infinity Construction Co. Pvt. Ltd., Vadodara on March 07<sup>th</sup>, 2020.
27. "Current Trends in Petroleum Refineries" by Mr. H. R. Patel, Procedure Development Head, SPIE Oil and Gas Middle East LLC, Kuwait, on August 09<sup>th</sup>, 2019.

28. "Safety in Chemical Industries", by Mr. H R Patel, Procedure Development Head, SPIE Oil and Gas Middle East LLC, Kuwait, on August 13<sup>th</sup>, 2019.
29. "Chemical approach to active compound derivatives" by Dr. Mamoru Koketsu, Professor, Gifu University, Japan on September 27<sup>th</sup>, 2019.
30. "Awareness about Patent" by Ms. Shiva Mehta from Y. J. Trivedi and Associated, Ahmedabad on October 23<sup>rd</sup>, 2019.
31. "Protection and Safety on Power Systems with Highly Renewable Distributed Energy Resources" by Prof. N. C. Nair University of Auckland, New Zealand Associate Professor on April 09<sup>th</sup>, 2019.
32. "Applications of Electromagnetic Fields in Electrical Engineering" by Dr. Parag R. Upadhyay ABB Ltd., USA on July 17<sup>th</sup>, 2019.
33. "Transmission line protection by over current relays" by Prof. Bhuvensh Oza former Professor of BVM Engineering College V. V. Nagar on July 31<sup>st</sup>, 2019.
34. "Applications of WAMS in Power System" by Dr. Gopal Gajjar Sr. Research Scientist, IIT – Bombay on March 13<sup>th</sup>, 2020.
35. "Selection of Motors for Electric Vehicle" by Prof. K. Ragavan, Associate Professor, IIT Gandhinagar on February 24<sup>th</sup>, 2020.
36. "Electric Vehicles" by Mr. Piyush Bhai Shah, Renesys Power Systems (P) Ltd., Ahmedabad on August 28<sup>th</sup>, 2019.
37. Dr. Antonello Astarita, University of Naples Federico II UNINA, Department of Chemical, Materials and Industrial Production Engineering Italy delivered expert talk on 'Advancements in Additive Manufacturing and Friction Welding processes' on October 11<sup>th</sup>, 2019.
38. J. Hashemi, Associate Dean for Research, College of Engineering and Computer Science, Florida Atlantic University visited department and delivered his talk on 'Student Exchange Programme for Reseach Oriented Students' on November 20<sup>th</sup>, 2019.
39. Dr. Abhjit Pandya, Florida Atlantic University delivered expert talk on 'Research Opportunities at FAU' on November 20<sup>th</sup>, 2019.
40. Ramesh K. Agarwal, Mechanical Engineering & Materials Science, The William Palm Professor of Engineering, Washington University in St. Louis, USA visited the mechanical engineering department and share his expertise in area of Computational Fluid Dynamics with faculty members of the deparment on December 20<sup>th</sup>, 2019.
41. Prof. Dilip Sundaram, Prof. Udiptta Ghosh, Prof. Jaichandar IIT Gandhinagar delivered expert talk on 'Research Scopes and Career Opportunities in Mechanical Engineering at IIT Gandhinagar' on September 06<sup>th</sup>, 2019.
42. Mr. Yogesh Bhatt, Vice President, Ericsson AG, USA delivered expert talk on 'Rise of Industry 4.0' on August 02<sup>nd</sup>, 2019.
43. Mr. Arun Pandey, Visal solution consultant, VizExperts India Pvt. Ltd., New Delhi delivered expert talk on 'Role of Virtual Reality in Product Design and Manufacturing' on August 29<sup>th</sup>, 2019.
44. Mr. Nitin Banait Academics Manager - West Region Khodiyar CAD center (I) Pvt. Ltd. Pune, delivered expert talk on 'Electric Vehicles' on September 10<sup>th</sup>, 2019.
45. Mr. Bhavin Dabhi, Proprietor, Designovation lab, Rajkot delivered expert talk on 'Product Design Thinking and Path to Entrepreneurship through Disruptive Innovation' on September 25<sup>th</sup>, 2019.
46. Mr. Yash Shukla, Technical Director, CARBSE, CEPT University delivered expert talk on 'Net Zero Energy Building' on October 17<sup>th</sup>, 2019.
47. Dr. Amit Sata, Professor, Marwadi University, Rajkot delivered expert talk on 'IoT Enabled, Metal Casting' on September 21<sup>st</sup>, 2019.
48. Dr. Ravikumar, Professor, IIT Roorkee delivered expert talk on 'Advanced Practices in Thermal Engineering' on August, 14<sup>th</sup>, 2019.

49. Dr. S. Vengadesan, Professor Department of Applied Mechanics, IIT Madras delivered expert talk on 'Wall Turbulent Flows' on October 21<sup>st</sup>, 2019.
50. Dr. C M Sewetkar, Professor, Mechanical Engg. Dept. College of Engg. Pune delivered expert talk on 'Heat Transfer Analysis' on November 08<sup>th</sup>, 2019.
51. Mr. Jasmin Panchal, Sr. Manager, HR & Training TATA Motors, Sanad delivered expert talk on 'Opportunities for Mechanical Engineers in Industry and Expected Qualities in Engineering Graduates' on January 01<sup>st</sup>, 2020.
52. Mr. Amar Patel, Engineering Consultant, Caterpillar, USA and founder of Buttercups, Ahmedabad delivered expert talk on 'Journey as a Mechanical Engineer – Life Experiences' on February 15<sup>th</sup>, 2020.
53. Mr. T. Suresh, Head-Quality at TATA Motors Limited delivered expert talk on 'Advanced Quality for Manufacturing' on March 05<sup>th</sup>, 2020.
54. Mr. A. I. Patel, Retired Scientist, SAC, ISRO delivered expert talk on 'Manufacturing Trends for Advanced Materials' on February 05<sup>th</sup>, 2020.
55. Dr. Rajesh. A. Thakkar, Professor, VGEC, Chandkheda, delivered expert talk on 'Recent Trends and Opportunities in VLSI', on July 16<sup>th</sup>, 2019.
56. Mr. Nilesh Ranpura, ASIC Delivery Manager, eInfochips, Ahmedabad, delivered expert talk on 'VLSI Design and Testing: Industry Perspectives' on November 07<sup>th</sup>, 2019.
57. Dr. Rikin Thakkar, Vice President of Telecommunications and Spectrum Policy at Multicultural Media, Telecom and Internet Council (MMTC), delivered expert talk on 'Evolution towards 5G' on January 01<sup>st</sup>, 2020.

### **Research Talks / Lectures delivered by Faculty Members**

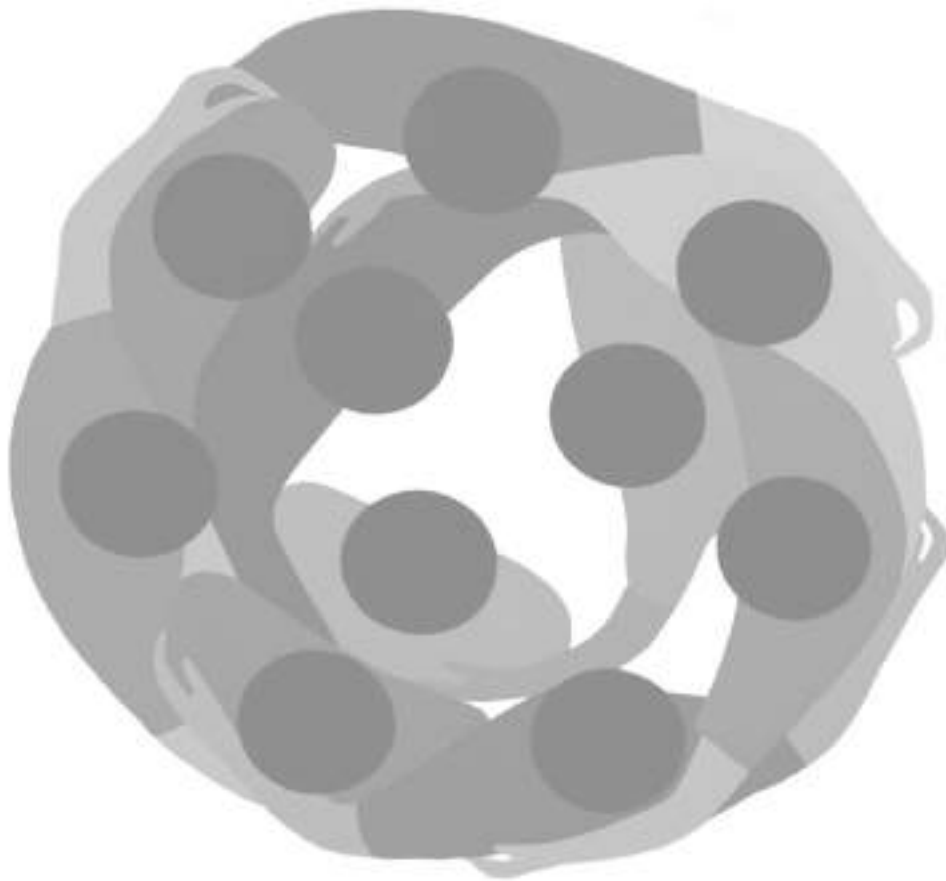
Following are the details of some of the talks / Lectures delivered by the faculty members of at various Seminars / Conferences / Symposiums etc.

1. Dr. Urmil V. Dave, Professor, Civil Engineering Department, SoE, IT-NU, delivered an expert talk on 'Advances in Concrete Technology', during One Day Seminar on "Emerging Trends in Structural Engineering" at Gyanmanjari Institute of Technology, Bhavnagar on July 27, 2019.
2. Dr. Parul. R. Patel, Professor, Civil Engineering Department, SoE, IT-NU delivered an expert talk on 'Geospatial Education: Need for the Day', during the National Symposium on Industry-Academia Collaboration for Geospatial Technologies at CEPT University in collaboration with IEEE-GRSS (Gujarat chapter) on December 10, 2019.
3. Dr. Urmil V. Dave, Professor, Civil Engineering Department, SoE, IT-NU, delivered an expert talk on 'Geopolymeric Materials for Civil Engineering Applications' at International Conference on Fly Ash Utilization- "GREEN ASHCON 2020" & "GREEN BUILDCON 2020" organized by GreenAshCon Foundation and CSIR-AMPRI on February 15, 2020.
4. Dr. Dhaval Pujara, Professor, Department of Electronics and Communication Engineering, delivered an expert talk on "Antenna Research" at Public University of Navarra, Pamplona, Spain during February 24-29, 2020.
5. Dr. Dhaval Pujara, Professor, Department of Electronics and Communication Engineering, delivered an expert talk on "Critical Thinking" at Public University of Navarra, Pamplona, Spain during February 24-29, 2020.
6. Dr. Priyanka Sharma, Professor, Department of Computer Science and Engineering, delivered an expert talk on "Artificial Intelligence and Machine Learning Workshop" at Acropolis Institute of Technology & Research-Indore during June 20-21, 2019.

7. Dr. Priyanka Sharma, Professor, Department of Computer Science and Engineering, delivered an expert talk on “NVIDIA DLI - Deep Learning for Computer Vision” at Mahindra Ecole Centrale University-Hyderabad during June 27-29, 2019.



Research Report  
of  
Institute of Management





# INSTITUTE OF MANAGEMENT

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Completed Major Research Projects	01	6,00,000/=
Ongoing Major Research Projects	03	1,02,00,000/=
Sanctioned Major Research Projects	02	24,19,000/=
<b>Minor Research Projects</b>		
Completed Minor Research Projects	01	4,00,000/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		19
Books Published		04
Book Chapters Published		13
<b>Cases Published</b>		
Cases		02
<b>Doctoral Research</b>		
Ph.D. Degree Awarded		03
New Ph. D. Students Enrolled in this Year		04
Current Ph.D. Students		55
Current Ph. D. Guides		19
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		02
<b>Travel Grants</b>		
Travel Grants Received by the Faculty Members		01
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
International / National Conferences		02
Seminars / Workshops / Training Programmes		03
Research Talks / Lectures		03

## Research Projects

### Major Research Projects

#### Completed Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Preparation of District Human Development Report of Devbhumi Dwarka	Prof. M. Mallikarjun, Prof. Nikunj Kumar Patel	Gujarat Social Infrastructure Development Society (GSIDS), General Administration Department (Planning), Government of Gujarat	6,00,000/-
<b>Total Grant</b>				<b>6,00,000/-</b>

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Research Ambience and Research Productivity: A Study of Higher Educational Institutions in India, South Africa, and The USA	Prof. Rajesh Jain, Prof. Udai Paliwal	Indian Council of Social Science Research (ICSSR)	11,00,000/-
2.	Adoption & Effectiveness of Digital Health Services in India: A Study of State of Gujarat	Prof. Jayesh Aagja, Prof. Samik Shome	Indian Council of Social Science Research (ICSSR)	20,00,000/-
3.	Rainbow (Realizing Aspirations, Interests & Brilliance of Young Women in Indian Universities)	Prof. Nina Muncherji, Prof. Amola Bhatt	ERASMUS	71,00,000/-
<p>This is an International Collaborative research project with a total fund of 569 557,00 € sanctioned by ERASMUS+. The other collaborative partners are BIRLA ACADEMY OF ART AND CULTURE (BIMTECH), India; SIR PADAMPAT SINGHANIA UNIVERSITY, India; FH JOANNEUM GESELLSCHAFT MBH, Austria; YVASKYLAN yliopisto, Finland And INTERNATIONAL CONSULTING AND MOBILITY AGENCY SOCIEDAD DE RESPO, Spain.</p>				

<b>Total Grant</b>	<b>1,02,00,000</b> /-
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### **Sanctioned Major Research Projects**

<b>Sr. No.</b>	<b>Title of the Project</b>	<b>Project Investigator/s</b>	<b>Funding Agency</b>	<b>Grant (in Rs.)</b>
1.	Assessing the Impact of Microfinance Services on Empowerment of Female Living in Rural Area of North Gujarat	Prof. Riteshkumar Patel, Prof. Nikunj Kumar Patel	Indian Council of Social Science Research (ICSSR)	4,50,000/-
2.	Government Agency Initiatives for Scientific Research Management with Special Reference to Institute/University Interface	Prof. Nityesh Bhatt, Prof. Punit Saurabh, Prof. Balakrishnan Unny	Indian Space Research Organisation (ISRO)	19,69,000/-
<b>Total Grant</b>				<b>24,19,000/-</b>

### **Minor Research Projects**

### **Completed Minor Research Projects**

<b>Sr. No.</b>	<b>Title of the Project</b>	<b>Project Investigator/s</b>	<b>Funding Agency</b>	<b>Grant (in Rs.)</b>
1.	Effectiveness and Efficiencies of MGNREGA in Five Districts of Central Gujarat and its Impact on Quality of Life	Prof. Samik Shome	Indian Council of Social Science Research (ICSSR)	4,00,000/-
<b>Total Grant</b>				<b>4,00,000/-</b>

## Research Publications

### Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Misra H. “Ship Breaking and its Ecological Impact”. *International Journal of Multidisciplinary Research and Development* 6(4) (2019): 67-71.
2. Thanki S and Thakkar J. “An investigation on lean-green performance of Indian manufacturing SMEs”. *International Journal of Productivity and Performance Management* 69(3) (2019): 489-517.
3. Misra H. “Expenditure Pattern of Migrant Workers at Alang Ship Breaking Yard”. *International Journal of Interdisciplinary Research in Arts and Humanities* 4(1) (2019): 52-55.
4. Patel R. “Wealth Effects of Bank Mergers: Evidence from Shareholder Returns”. *Journal of Wealth Management*. 22(1) (2019): 86-95.
5. Misra H. “Analysis of Alang Ship Breaking Yard, India”. *Economic Affairs*. 64(2) (2019): 417-424.
6. Patel M. et al. “Succession Planning in A Family-Owned Hotel Business”. *Prabandhan: Indian Journal of Management*. 12(12) (2019): 23-37.
7. Jain R. and Khanuja A., “Supply Chain Integration: A Review of Enablers, Dimensions and Performance. *Benchmarking: An International Journal*, 27(1) (2019): 264-301.
8. Rao Indu and Thakur P. “Knowledge Workers, Organizational Ambidexterity and Sustainability: A Conceptual Framework”. *International Journal of Business Excellence*, 19(3) (2019): 415-428.
9. Arnab Kumar Laha et al. “Sb-Robust Estimation of Mean Direction for Some New Circular Distributions”. *Statistical Papers* 60(3) (2019): 877-902.
10. Shome S. “The Statistical Analysis of Examination and Evaluation of Results of International Trade Course”. *International Journal of Business Analytics and Intelligence* 7(1) (2019): 46-52.
11. Kaur R. “Employer Attractiveness: A Comparative Analysis of Professionals & MBA Students Perceptions”. *The Indian Journal of Industrial Relations* 55(1) (2019): 153-166.
12. Parashar S. “Health Consciousness as an Enabler for Exploratory Buying behaviour”. *SCMS Journal of Indian Management*. 16(2) (2019): 87-100.
13. Kadia S and Parashar S. “Content Analysis of MGNREGA’s TV Advertisement and Online News Coverage”. *Journal of Rural and Industrial Development*, 7(2) (2019): 23-33.
14. Mungra Y and Yadav P K. “The mediating effect of satisfaction on trust-commitment and relational outcomes in manufacturer-supplier relationship”. *Journal of Business & Industrial Marketing*, 35(2) (2019): 219-230.

15. Trada S and Goyal V. “Tripartite Role of Communications in Channel Relationships: Mitigating Exchange Hazards, Reducing Opportunism, and Curtailing its Ill Effects on Relationship Performance”. *Industrial Marketing Management* 85 (2020): 281-294.
16. Mittal H. “What Impedes the Success of Late mover in Clusters Despite Economically Favorable Environments? A Case Study of an Indian IT Cluster”. *Technology Innovation Management Review*. 10(1) (2020): 54-67.
17. Thanki S. et al. “Cycle Time Reduction in Outsourcing Process: Case of an Indian Aerospace Industry”. *The International Journal of Advanced Manufacturing Technology* 106(9/10) (2020): 4355-4373.
18. Jhaveri C. “Evaluation of E-Tail Services Quality: AHP Approach”. *Vision: The Journal of Business Perspective*, 24(3) (2020): 310-319.
19. Bhatt N. and Patel R. “A Study of ICT Adoption and its Impact on Selected MFIs of Gujarat”. *Indian Journal of Finance*, 14(2) (2020): 7-20.

### Books Published

Sr. No.	Name of the Faculty	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Rajesh Jain	Quality and Innovation	ASQ South Asia	978-819-302-165-1	2019
2.	Nityesh Bhatt, Ritesh Patel	Research Frontiers in Finance and General Management	Excel Publisher, New Delhi	978-938-672-470-0	2019
3.	Sapna Parashar, Tejas Shah	Customer Competition and Marketing Strategy	Excel Publishers, New Delhi	978-819-436-412-2	2020
4.	Tejas Shah, Sapna Parashar	Innovation in Marketing	Excel Publishers, New Delhi	978-819-436-413-9	2020

### Book Chapters Published

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Bhajan Lal, Balakrishnan Unny	Examination the relationship of Job Attitudes	Customer Competition and	Excel India Publisher	978-819-306-41-2-2).	2020

		for Marketing Professional: An Indian Perspective	Marketing Strategy			
2.	Balakrishnan Unny, Bhajan Lal	Networks for the future: An Indian Perspective	Innovations in Marketing	Excel India Publisher	978-81-930-641-2-2).	2020
3.	Sandip Trada	Role of customers and frontline employees' behaviours on customer satisfaction in service encounter	Customer, Competition, and Marketing Strategy	Excel India Publisher	978-81-930-641-2-2	2020
4.	Avani Raval, Swati Saxena	Digitalization of Selected Banking Services - What is the Consumers' take?	Innovations in Marketing	Excel India Publisher	978-819-436-41-3-9	2020
5.	Praneti Shah	Environmental Performance Index Score: A Driving Force towards Green Business Model and Process Innovations	Innovations in Marketing	Excel India Publisher	978-819-436-41-3-9	2020
6.	Monali Chatterjee	Mapping Semiotics in the Language of Contemporary Advertisements	Customer, Competition, and Marketing Strategy	Excel India Publishers	978-81-943641-2-2	2020
7.	Bhajan Lal	Innovation As an Instrument to Challenge	Quality and Innovation	American Society for Quality	978-81-930-216-5-1	2019

		Business Change		India Pvt. Ltd.		
8.	Rajesh Jain	Impact of Additive Manufacturing Technology on Supply Chain	Quality and Innovation	ASQ South Asia	978-81-930-216-5-1	2019
9.	Rajesh Jain	Embracing Change through Quality and Innovation	Quality and Innovation	ASQ South Asia	978-81-930-216-5-1	2019
10.	Rajesh Jain	Innovative Practices of Supplier Selection: A Case of Textile Industry	Quality and Innovation	ASQ South Asia	978-81-930-216-5-1	2019
11.	Rajesh Jain	Technology advancement: an application of text mining	-----	-----	A Compendium of Ideas & Perspectives on Sustainable Development Goals	BK School of Professional and Management Studies, Gujarat University
12.	Supriya Singh, Punit Saurabh	Social Entrepreneurship from an Entrepreneurs Perspective: Issues and Challenges	Innovations in Marketing	Excel India Publishers	978-81-943-641-3-9	2020
13.	Nityesh Bhatt, Balakrishnan Unni, Sameer Pingle	Space Commerce in India: A Case Study of ISRO	Innovations in Marketing	Excel India Publishers	978-81-9436-413-9	2020

## Cases Published

Sr. No.	Name of Author	Title of Case	Year
1.	Shahir Bhatt, Amola Bhatt	Managing a Growing Family Business: A Case of Tracom Stock Brokers Pvt. Ltd.	2019
2.	Nirmal Soni, Khyati Shah, Ritesh Patel	Cost Behaviour during Increased Competition in A Period: A Case Study	2019

## Ph.D. Awarded

Sr. No.	Name of the Student	Name of the Guide / Supervisor	Title of Thesis
1.	Godiawala Savan Rashmikant	Dr. Neeraj Amarnani	Cross Border Capital Account Transactions: Factors Influencing Policy Reforms in India
2.	Priyanka Bharatkumat Dave	Dr. Harismita Trivedi	Antecedents and Consequences of Work Place Learning.
3.	Tanvi Jayantilal Faldu	Dr. Sameer Pingle	Shared Identity, Work-Life Roles and Career Priority: A study of Dual Career Couples

## Research Awards

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Prof. Tirthank Shah	2 <sup>nd</sup> Prize for Best Research Paper	VM Patel Institute of Management, Ganpat University	Certificate
2.	Prof. Chitra Khari	MSR Fetzter Scholarship	MSR division of Academy of Management in association with Fetzter Institute, Boston, US	Fellowship

## Travel Grants

Sr.No.	Name of the Faculty Member	Purpose of the Visit	Name of the Funding Agency	Name of the Country
1.	Prof. Monali Chatterjee	To participated in the conference	Partial funding received from Nirma University	Italy

## Conferences / Seminars / Workshops / Research Talks Organized by the Institute

### ASQ Oct-Nov 2019 Quality Conference

The American Society for Quality (ASQ) Ahmedabad Local Member Community (LMC) and Institute of Management, Nirma University jointly organized the 9th Annual Conference on Quality Management on November 22-23, 2019 at Nirma University. The theme of the conference was "Challenge the Change through Quality and Innovation". The Conference is being organized with the Association Partnerships of "Vadodara Innovation Council", which is an extended arm of the National Innovation Council of Govt. of India; "Rajkot Management Association", one of the most vibrant city-based associations of the All India Management Association (AIMA); and "Project Management Institute (PMI)" Mumbai Chapter, PMI is the world's leading not-for-profit professional membership association for the project management profession. Mr. R. B. Jagyasi, Chief Operating Officer, Milacron India was the Chief Guest; and Mr. Mirkhusal Aga Director & Head, Western Region, ASQ South Asia was the Guest of Honour, the welcome address was delivered by Prof. Rajesh k. Jain, Chair, ASQ LMC Ahmedabad. A book on "Quality & Innovation" was unveiled during the Inaugural Session. All the participants were taken to the "Seeing is Believing" Plant visits to various nearby plants of leading manufacturers. The Conference witnessed 34 Live Case Studies presentation besides Panel Discussion and Plenary Session by top executives of the Industry. Ford India, Lupin Ltd. and Global Indian International School were declared as the 2019 winners in the best case studies presentations.



Valedictory Function of AQS

## NICOM January 2020

Nirma International Conference on Management had been an annual event at Institute of Management, Nirma University (IMNU) providing a platform for an interactive discussion between academicians and industry veterans on a plethora of topics under a common theme. The 23rd NICOM, organized by IMNU, was three day event with inaugural session on 3rd January 2020. The chief guest for the inaugural session was Mr. Santosh Desai, MD & CEO, Futurebrands. The president of Nirma University, Dr. Karsanbhai Patel was also present for the inaugural session. The conference received 192 abstracts and 87 full papers from academicians and practitioners from United States, Bangladesh, and India, presented their research in five concurrent tracks during the three days of the conference. A total of 52 selected papers were published in two books namely “Customer, Competition & Marketing Strategy” and “Innovations in Marketing”, which were released during the inaugural ceremony.



Inaugural Function of NICOM

### **Author-cum-Publishing Workshop (19<sup>th</sup> December, 2019)**

The library of IMNU organised an Author-cum-Publishing workshop for researchers and aspiring to get into publishing on 19<sup>th</sup> December, 2019. The resource person was Ms. Anwasha Rana and Ms. Qudsiya Ahmed from Cambridge University Press.

### **Workshop on SAS (26<sup>th</sup> April, 2019)**

One day workshop on the theme “Structural Equation Modelling” was conducted by Dr. Sharad Saxena from SAS on 26<sup>th</sup> April, 2019. It provided primary understanding of SAS to the doctoral scholars.

### **Training Session on database – ISI Emerging Market - EMIS**

On 30<sup>th</sup> July, 2019, a training session was held on the subscribed database named 'ISI Emerging Market'.

### **Research Talks / Lectures**

The Institute of Management has been proactively organizing research related expert talks by eminent personalities from Industry and Academia. Following are the details of some of the talks/lectures organized by the institute:

1. Prof. Russell Belk, Kraft Foods Chair in Marketing, Schulich School of Business, York University (Canada), conducted a session for full-time doctoral scholars of Institute of Management, Nirma University on 14<sup>th</sup> August, 2019 between 9.30 am to 12.45 pm. It was attended by 15 students. The session was divided into two halves. The first session was on ‘Creating Original Consumer Culture Theory’ between 9.30 am to 11.00 am wherein Prof.

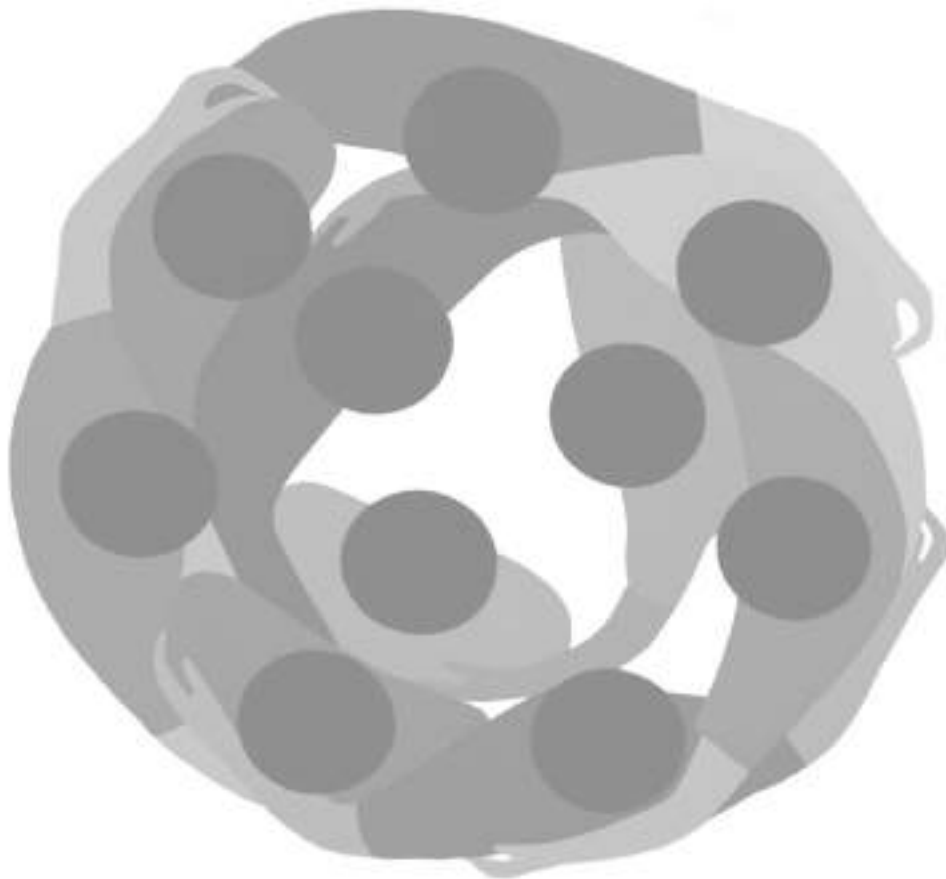
Nirma University Annual Research Report (April 2019 - March 2020)

Belk encouraged the students to create their own theories rather than relying on and empirically testing the existing theories and models. In the second session titled ‘Creating & Publishing A Conceptual Paper’ between 11.15 am to 12.45 pm, Prof. Belk shared his experience on how to work on review of literature and develop conceptual papers. Both the sessions were very informative which enhanced the knowledge level of the doctoral students. The session ended with vote of thanks to Prof. Belk by Prof. Samik Shome.

2. A workshop on “Creative Teaching” was conducted on 9<sup>th</sup> January, 2020 by Prof. Arpan Yagnik. He is an Assistant Professor of Advertising and Communication, PennState University. During the three hours short session, he very wonderfully involved all the participants in “Creative Aerobics” and explained how to make a class interesting and interactive for the students.
3. Dr. Sanjiv Vaidya is a retired Professor of Information Systems at the Indian Institute of Management, Calcutta. He interacted with the doctoral scholars on 21<sup>st</sup> January, 2020 regarding their progress in research work and guided them based on his profound academic experience.



Research Report  
of  
Institute of Pharmacy





# INSTITUTE OF PHARMACY

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Completed Major Research Projects	02	83,92,400/=
Ongoing Major Research Projects	03	83,60,200/=
Sanctioned Major Research Projects	02	1,15,00,000/=
<b>Minor Research Projects</b>		
Completed Minor Research Projects	05	6,50,000/=
Ongoing Minor Research Projects	02	4,00,000/=
Sanctioned Minor Research Projects	06	5,00,000/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		62
Books Published		01
Book Chapters Published		07
<b>Patents Granted</b>		
Patents		03
<b>Doctoral Research</b>		
Ph.D. Degree Awarded		11
New Ph. D. Students Enrolled in this Year		05
Current Ph.D. Students		61
Current Ph. D. Guides		22
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		06
<b>Travel Grants</b>		
Travel Grants Received by the Faculty Members		01
<b>Conferences / Seminars / Lectures Organized by the Institute</b>		
International / National Conferences		01
Seminars / Workshops / Training Programmes		09
Research Talks / Lectures		52

## Research Projects

### Major Research Projects

#### Completed Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Formulation Development and Evaluation of Nanoparticulate Systems for Targeted Delivery of Anticancer Agents	Prof. Mayur Patel, Prof. Bhumika Patel	Nirma University	28,92,400/-
2.	FIST Grant	Prof. Manjunath Ghate	Department of Science and Technology (DST)	55,00,000/-
<b>Total Grant</b>				<b>83,92,400/-</b>

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Exploring Non-Equilibrium Atmospheric Plasma for Effective Sterilization Including Biological Safety Aspects	Prof. Shital Butani, Prof. Priti Mehta	Board of Research in Nuclear Sciences (BRNS)	20,78,300/-
2.	Evaluation of Radio Protective Potential of Medicinally Important Indian Bamboo Plants in Cancer	Prof. Priti Mehta, Prof. Snehal Patel Prof. Sonal Bakshi,	Ministry of Ayush	42,00,000/-
3.	Evaluation of DNA Polymerase Inhibitors for the Treatment of Alzheimer's Disease	Prof. Jigna Shah, Prof. Hardik Bhatt	Gujarat State Biotechnology Mission (GSBTM)	20,81,900/-
<b>Total Grant</b>				<b>83,60,200/-</b>

### Sanctioned Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Assistance for setting up R & D Institute	Prof. Manjunath Ghate	Gujarat State Biotechnology Mission (GSBTM)	85,00,000/-
2.	Development and Evaluation of PH Responsive Multi-Modal Delivery Platform in the Treatment of Oral Cancer	Prof. Tejal Mehta, Prof. Jigna Shah, Prof. Heena Dave	Nirma University	30,00,000/-
<b>Total Grant</b>				<b>1,15,00,000/-</b>

### **Minor Research Projects**

### Completed Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Design and Synthesis of Novel Pteridine Derivatives as Aurora Kinase Inhibitors for the Treatment of Cancer	Prof. Hardik Bhatt, Prof. Vivek Vyas	Gujarat Council on Science and Technology (GUJCOST)	2,70,000/-
2.	Effect of Bergenin on Amyloid Aggregation in Alzheimer's Disease	Prof. Niyati Acharya	Nirma University	95,000/-
3.	Formulation Development & Evaluation of Theranostic Nanocarriers for Brain Tumor Targeting	Prof. Jigar Shah	Nirma University	90,000/-
4.	Physicochemical Property Improvement of Poorly Water-soluble Anti-Infective Drugs	Prof. Jignasa Savjani	Nirma University	1,00,000/-
5.	Pharmacological Evaluation of Anti-Diabetic Agents in Diabetes Associated Depression. Molecular Link and Clinical Implications.	Prof. Snehal Patel	Nirma University	95,000/-
<b>Total Grant</b>				<b>6,50,000/-</b>

### Ongoing Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Design and Synthesis of Poly (ADP-Ribose) Polymerase1 (Parp1) Inhibitors for the Treatment of Cancer	Prof. Bhumika Patel	Nirma University	2,00,000/-
2.	Design, Synthesis and Pharmacological Evaluation of Novel Benzimidazole Derivatives as C-Met Kinase Inhibitors	Prof. Palak Parikh	Nirma University	2,00,000/-
<b>Total Grant</b>				<b>4,00,000/-</b>

### Sanctioned Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Evaluation of Serotonin Modulator in Ischemic Stroke and Associated Cachexia	Prof. Bhoomika Patel	Nirma University	80,000/-
2.	Pre-Clinical Evaluation of Cannabidiol Natural Adjuvant Therapy in Alzheimer's Disease	Prof. Niyati Acharya	Nirma University	80,000/-
3.	Development of Novel Topical Formulation for the Treatment of Rosacea	Prof. Dhaivat Parikh	Nirma University	90,000/-
4.	Curvatures of Carbon: Synthesis Characterization and its Drug Delivery Application	Prof. Jigar Shah	Nirma University	80,000/-
5.	Investigation of Neuroprotective Effect of Toll Like Receptor 4 Inhibitors for The Treatment of Neuro-Inflammation and Cognitive Decline Associated with Alzheimer Diseases	Prof. Bhagwati Saxena, Prof. Nagja Tripathi	Nirma University	90,000/-
6.	"Chromatographic Fingerprinting and Safety Evaluation of the Proposed Regimen Containing Plant Parts for Liver Protection".	Prof. Shital Panchal, Prof. Charmy Kothari	Nirma University	80,000/-
<b>Total Grant</b>				<b>5,00,000/-</b>

## Research Publications

### Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Manjunath, G. "Design of 2-Nitroimidazooxazine Derivatives as Deazaflavin-Dependent Nitroreductase (DDN) Activators as Anti-Mycobacterial Agents Based on 3D Qsar, Hqsar, and Docking Study with in Silico Prediction of Activity and Toxicity". *Interdisciplinary Sciences: Computational Life Sciences* 11(2): 2019: 191-205.
2. Gandhi, D et al. "Optimization of Microwave-Assisted Extraction Technique for Isolation of Betulinic Acid from *Dillenia Indica* Linn. and its Quantification Using Developed HPTLC Method". *Journal of Applied Pharmaceutical Science* 9(8) (2019): 101-110.
3. Bhatt, H and Chavda J. "3D-Qsar (Comfa, Comsia, Hqsar and Topomer Comfa), Md Simulations and Molecular Docking Studies on Purinylpyridine Derivatives as B-Raf Inhibitors for the Treatment of Melanoma Cancer." *Structural Chemistry* 30(6) (2019): 2093-2107.
4. Dudhe P and Bhatt H. "3D Qsar Studies of Salicylanilide Benzoates Derivatives & Generation of New Leads as Mycobacterium Tuberculosis Inhibitors". *International Journal of Pharmtech Research*. 12 (3) (2019): 31-41.
5. Butani S et al. "Liquisolid: A Promising Technique to Improve Dissolution Efficiency and Bioavailability of Poorly Water Soluble Nimodipine". *Journal of Drug Delivery Science and Technology* 53(6) (2019): 101-135.
6. Bhatt H et al. "Comfa, Comsia, Topomer Comfa, Hqsar, Molecular Docking and Molecular Dynamics Simulations Study of Triazine Morpholino Derivatives as mTOR Inhibitors for the Treatment of Breast Cancer". *Computational Biology and Chemistry* 80(6) (2019): 351-363.
7. Bhatt H et al. "Synthesis and Pharmacological Evaluation of Substituted 1,3,4-Thiadiazole Derivatives as Anticonvulsant Agents". *Nirma University Journal of Pharmaceutical Sciences* 6(1) (2019): 15-26.
8. Desai P et al. "Stability Indicating RP-HPLC Method Development and Validation for Simultaneous Quantification of 15 Organic Impurities of Olmesartan Medoxomil, Amlodipine and Hydrochlorothiazide in Combined Dosage form" *Chromatographia* 82(5) (2019): 819-833.
9. Bhayani D et al. "Simulated Space Radiation: Investigating Ionizing Radiation Effects on the Stability of Amlodipine Besylate API and Tablets". *European Journal of Pharmaceutical Sciences*. 137 (2019): 104982.
10. Mehta P et al. "In Vitro Evaluation for Protective Effect of Bamboo Leaves Against Gamma Radiation Induced Genetic Damage and Their Polyphenols Quantification Using RP-HPLC". *Indian Drugs* 57(1) (2020): 27-36.
11. Acharya N and Patel V. "Effect of *Macrotyloma Uniflorum* Seeds in Ethylene Glycol Induced Urolithiasis in Rats". *International Journal of Pharmtech Research*. 12(4) (2019): 43-53.

12. Bhagawati S “The Role of Toll Like Receptor 4 in Pathogenesis of Alzheimer’s Disease Induced by Aluminum Chloride”. *Journal of Emerging Technologies and Innovative Research* 6(4) (2019) 96-99.
13. Patel S et al. “Antidiabetic Potential of Gallic Acid from *Emblca Officinalis*: Improved Glucose Transporters and Insulin Sensitivity through PPAR-G and AKT Signaling”. *Phytomedicine* 1(1) (2019): 152-906.
14. Patel S and Igawale D, “Anti-Inflammatory Potential of Hecogenin on Atopic Dermatitis and Airway Hyperresponsiveness by Regulation of Pro-Inflammatory Cytokines”. *Immunopharmacology and Immunotoxicology* 30(1) (2019): 327-336.
15. Panchal S and Baig A. “Safety Evaluation of Synringic Acid: Subacute Oral Toxicity Studies in Wistar Rats”. *Heliyon* 5(8) (2019): e02129.
16. Patel S and Arora B. “The Prevalence of Pre-Diabetes and Associated Conditions in Ahmedabad Population”. *International Journal of Diabetes in Developing Countries* 9(45) (2019): 61–69.
17. Mehta A and Patel B M, “Therapeutic Opportunities in Colon Cancer: Focus on Phosphodiesterase Inhibitors”. *Life Sciences* 1:230 (2019): 150-161.
18. Bhagawati S et al. “Repositioning of an Anti-Depressant Drug, Agomelatine as Therapy for Brain Injury Induced by Craniotomy”. *Drug Discov Ther.* 13(4) (2019): 189-197.
19. Chokshi N et al. “Fabrication and Optimization of Isoniazid Loaded Lipid Nanoparticulate Systems for the Treatment of Tuberculosis”. *Advanced Science, Engineering and Medicine* 11(8) (2019): 741-757.
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22. Mathur P et al. “Oral Delivery of Anticancer Agents Using Nanoparticulate Drug Delivery System”. *Current Drug Metabolism* 20(14) (2019): 1132-1140.
23. Shah J. “Mucoadhesive Buccal Film of Almotriptan Improved Therapeutic Delivery in Rabbit Model”. *Saudi Pharmaceutical Journal* 28(1) (2019): 201-209.
24. Shah J. “Development of Asialoglycoprotein Receptor Targeted Nanoparticles for Selective Delivery of Gemcitabine to Hepatocellular Carcinoma”. *Molecules* 24 (2019): 4566 (1-18).
25. Kothari C and Parikh N. “Therapeutic Role of Methanolic Extract of *Ocimum Basilicum* L. Seeds and its Isolated Compound as Potent Antidiabetic and Antihyperlipidemic Agents”. *The Natural Products Journal* 9(1) (2019):226-235.
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30. Thakare V et al. "Protocatechuic Acid Attenuate Depressive-Like Behavior in Olfactory Bulbectomized Rat Model: Behavioral and Neurobiochemical Investigations". *Metabolic Brain Disease* 34(3) (2019): 775-787.
31. Patel S. "Risk Factors Associated with Overweight and Obesity Among Population of Ahmedabad, India". *Indian Journal of Public Health Research & Development* 10(1) (2019): 178-182.
32. Patel S and Patel S. "Therapeutic Target of Phosphatidylinositol 3 Kinase in Various Disease and Disorders". *Nirma University Journal of Pharmaceutical Sciences* 4(1) 41-50.
33. Rawal S. "Threatening Cancer with Nanoparticle Aided Combination Oncotherapy". *Journal of Controlled Release* 301 (2019): 76-109S.
34. Shah J and Kesharwani P. "Acute Toxicological Investigation of Polyethylene Glycol Derivatized fourth and fifth Generation Pegylated Poly Propyleneimine Dendrimers". *International Journal of Applied Pharmaceutics* 11(5) (2019): 110-125.
35. Shah J. "Computational and Biological Comparisons of Plant Steroids as Modulators of Inflammation through Interacting with Glucocorticoid Receptor". *Mediators of Inflammation* 5 (2019): Article ID 3041438, (Total 9 pages).
36. Shah J. "Nanoemulsion Based Vehicle for Effective Ocular Delivery of Moxifloxacin Using Experimental Design and Pharmacokinetic Study in Rabbits". *Pharmaceutics* 11(5) (2019): 230 9Total 16 Pages).
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45. Kothari C. "First Report on Clorprenaline HCl Degradation Products: Identification and Characterization by LC-MS/MS". *Journal of the Iranian Chemical Society* 17(5) (2020): 1027-1039.
46. Shah J. "Improvement of Oral Bioavailability of Carvedilol by Liquisolid Compact: Optimization and Pharmacokinetic Study". *Drug Delivery Translational Research* 20(3) (2020): 975-985.
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50. Vishal Chavda, Snehal Patel "Lyme Neuroborreliosis - The Mystifying Pitfall: "Neuropathology and Current Therapeutics". *Recent Patents on Anti-Infective Drug Discovery* 14 (2019): 43487.
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53. Pritesh R Desai, Priti J Mehta, Avani B Chokshi "Liquid Chromatographic Method Development for Quantification of Inorganic Nitrite and Nitrate Impurities from Nitroglycerin Drug Substance by Using Ion-Pair Reagents with Liquid-Liquid Extraction Technique". *Journal of Chromatographic Science* 57 (2019): 43839.
54. Pintu B. Prajapati, Navneet Wankhed, Priti J. Mehta "A Review on Multi Approaches for Impurity Isolation and its Characterization". *Journal of Drug Delivery and Therapeutics* 9 (2019): 793-802.
55. Dayanand Patagar Raviraj Kusanur Nikum D. Sitwala Manjunath D. Ghate Shanmugasundar Saravanakumar Sharanappa Nembenna Piyush A. Gediya "Synthesis of Novel 4-Substituted Coumarins, Docking Studies, and DHODH Inhibitory Activity". *Journal of Heterocyclic Chemistry* 56 (2019): 2761-2771.
56. V Shah, B Bharatiya, MK Mishra, D Ray, DO Shah "Molecular insights into sodium dodecyl sulphate mediated control of size for silver nanoparticles". *Journal of molecular liquid* 273 (2019): 222-230.

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58. Deepa K. Ingawale, Satish K. Mandlik, Snehal S. Patel "Combination of Sarsapogenin and Fluticasone attenuates ovalbumin-induced airway inflammation in a mouse asthma model". Immunopharmacology and Immunotoxicology 42 (2020): 128-137.
59. "Vidhi Shah, Tirth Panchal, Bhavesh Bharatiya, Nimeshchandra S. Patel, Atindra D. Shukla, Dinesh O. Shah "Colloidal PTFE dispersion in commercial engine oil: Lubrication by Pluronic adsorption at the interface". Colloids and Surfaces A 597 (2020): 43836.
60. Chintan Pansara, Renuka Mishra, Tejal Mehta, Ankit Parikh and Sanjay Garg "Formulation of chitosan stabilized silver nanoparticle containing wound healing film: In-vitro and In-vivo characterization". Journal of Pharmaceutical Science 109 (2020): 2196-2205.
61. Vaibhav Patel, Niyati Acharya "Anti-urolithiatic Activities of Macrotyloma uniflorum Mediated through Multiple Pathway". Indian Journal of Pharmaceutical Education and Research 54 (2020): 403-415.
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### Books Published

Sr. No.	Name of the Faculty	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Shital Panchal	Pharmacology I	Nirav Prakashan	978-819-442-611-0	2019

### Book Chapters Published

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Bhoomika Patel	Single Herb to Single Phytochemical Based Therapy for Diabetes Mellitus	Natural Medicines: Clinical Efficacy, Safety, and Quality	CRC Press (Taylor & Francis Group)	978-113-873-306-0	2019

2.	Bhoomika Patel	Histone deacetylases and oxidative stress: Role in diabetic cardiomyopathy	Oxidative Stress in Heart Diseases	Springer	978-981-138-272-7	2019
3.	Mayur Patel	Flavor Development for Functional Foods and Nutraceuticals	The Bad Taste of Nutraceuticals: Overview of Basic Research on Bitter Taste	CRC Press (Taylor & Francis Group)	978-113-859-954-3	2019
4.	Mayur Patel	Advances in Nutraceuticals Applications in Cancer: Recent Research Trends and Clinical Applications	Nutraceuticals' Role in Proliferation and Prevention of Colorectal Cancer	CRC Press (Taylor & Francis Group)	978-113-859-391-6	2019
5.	Jigna Shah	Association of Vitamin D Deficiency and Mood Disorders; a systematic review	Vitamin D Deficiency	IntechOpen	978-183-880-776-4.	2019
6.	Bhoomika Patel	Experimental Models for Cancer Cachexia	Animal Screening Basics of Drug Discovery Vol. II	Paging Publisher	978-819-403-726-2	2020
7.	Bhoomika Patel	Modified Denouement in Bariatric Surgery Due to Genetic Polymorphism	Pathophysiology of Obesity-Induced Health Complications	Springer Nature Switzerland AG	978-3-030-35357-5	2020

## Patents Granted

Sr. No.	Name of the Inventors	Title of the Patent	Year	Status
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1.	Prof. Mohit Shah, Prof. Tejal Mehta, Prof. Avani Amin	Pharmaceutical Composition for Nasal Delivery	2019	Granted
2.	Prof. Manjunath Ghate	A Novel Pharmaceutical Compound having Bacteriocidal action against Tubercle Bacilli and Synthesis There of	2019	Granted
3.	Prof. Jignasa Savjani	Process for the preparation of imidazolidine-2-thione & imidazole-2-thione	2019	Granted

### Ph.D. Awarded

Sr. No.	Name of the Student	Name of the Guide / Supervisor	Title of Thesis
1.	Mayuree Ashwinkumar Patel	Dr. Sanjeev Acharya	Comparative evaluation of sodhan-dravyas used for sodhit Guggulu for the antihyperlipidemic potential
2.	Sagar Sneha Rameshchandra	Dr. Kamala Vasu	Design and synthesis of novel imidazo-pyridine derivatives and their bioisosters in the management of Alzheimer's Disease
3.	Barai Priyal Sunilbhai	Dr. Niyati S. Acharya	Study of Mechanism of action of some neuroprotective agents from Indian Medicinal Plants
4.	Komal Vikas Chaudhary	Dr. Priti Mehta	Development and Analysis of Long Acting Parenteral Formulation
5.	Raval Nisith Jayeshbhai	Dr. Sanjeev Acharya	Formulation Development of Functionalized Brain Targeted Drug Delivery System for the Management of Cognitive Impairment
6.	Patel Mitalben Nageshbhai	Dr. Charmy Kothari	Degradation study of Selected PDE 5 inhibitors and their marketed formulation by applying QBD approach
7.	Arora Bhoomi Saurabh	Dr. Snehal Patel	Investigation of Prediabetes and Obesity Prevalence and their Association with Various Risk Factors
8.	Variya Bhaveshbhai Chhaganbhai	Dr. Snehal Patel	Unravelling molecular mechanism of action of gallic acid isolated from fruit juice of Emblica officinalis for its anti-diabetic and anti-hyperlipidemia potential
9.	Jha Abhishekkumar Brajeshkumar	Dr. Shital Panchal	Pharmacological investigation of Oryza sativa antioxidants in neurodegeneration.
10.	Chaube Udit Jaiprakash	Dr. Hardik Bhatt	Design and Synthesis of Novel mTOR Inhibitors as Anticancer Agents

11.	Borse Swapnil	Dr. Manish Nivsarkar	Multitarget Drug Discovery Approach for Diabetes Mellitus and Gastroenteropathy as its Comorbidity: Management with Metformin and Quercetin
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## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Prof. Jignasa Savjani	Outstanding Researcher in Pharmaceutical Chemistry	Venus International Foundation	Momento
2.	Prof. Mayur Patel	Apti Young Pharmacy Teacher of the Year	Association of Pharmacy Teachers of India	Trophy
3.	Prof. Niyati Acharya	GABTP National Woman Scientist Award 2019 at 29th APSI Scientists Meet and International Conference on Drug Discovery and Development in Agrobiotechnology and Pharmaceutical Sciences	Academy of Plant Sciences, India	Citation
4.	Prof. Manjunath D. Ghate	ISCB Best Teacher Award	Indian Society of Chemists and Biologists, Uttar Pradesh, India	Teacher/ Certificate
5.	Prof. Vivek Vyas	Best Abstract-ACS	RBF-2020: 9th International Symposium on "Advances in Drug Discovery and Development"	Best Abstract in poster presentation category
6.	Prof. Niyati Acharya	SFE Young Ethnopharmacologist Award 2020 P. K. Debnath Memorial Award for Best Oral Presentation in the Field of Ethnopharmacology and Medicinal Plant Research	Society for Ethnopharmacology (SFE)	Citation

## Travel Grants Received by the Faculty Members

Sr. No.	Name of the Faculty Member	Purpose of the Visit	Name of the Funding Agency	Name of the Country
1.	Prof. Bhumika Patel	To Attend & Present A Research Poster at 257 <sup>th</sup> ACS National Meeting and Exposition, Orlando, Florida, USA	Science and Engineering Research Board (SERB)	USA

## Conferences / Seminars / Workshops / Training Programmes Organized by the Institute

### ISCBC-NIPiCON 2020: 22<sup>nd</sup> to 24<sup>th</sup> January, 2020



Inaugural Function of ISCBC-NIPiCON

Institute of Pharmacy, Nirma University, Ahmedabad organized the 5<sup>th</sup> International Conference (NIPiCON) jointly with Indian Society of Chemists and Biologists (ISCB) as ISCBC-NIPiCON 2020 on “Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care” during January 22-24, 2020. Prof. Nigel G. J. Richards, Professor, Dept. of Chemistry, Cardiff University, Cardiff, U.K. was the Chief Guest and Professor Christophe LEN, PSL Research University, Paris, France was the Guest of Honor during the Inaugural Function.

Dr. Anamik Shah, President, Indian Society of Chemists and Biologists & Vice Chancellor, Gujarat Vidhyapith; Dr. PMS Chauhan, Chief Scientist and Professor, CDRI, Lucknow &

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General Secretary, ISCB and Shri K. K. Patel, Vice President, Nirma University also graced the function. Various eminent and distinguished scientists and academicians, from India and abroad, delivered lectures at the conference which was followed by the panel discussion. ISCB also gave Award of Excellence to various academicians and scientists for their contribution towards research and teaching. The conference ended with a Valedictory Programme which was graced by Dr. Vassilios Papadopoulos, Dean, School of Pharmacy, University of Southern California, USA as the Chief Guest. Prizes were given to the winners of the poster presentation competition and feedback of the delegates was taken. Overall, it was a fruitful and rich knowledge gaining session for all.

### **National Seminar on Herbal Drug Technology on 17<sup>th</sup> August, 2019**

Department of Pharmacognosy, Institute of Pharmacy, Nirma University has organized a day workshop on “Neuropharmacological Evaluation of Drugs: Application of Stereotaxic Surgery and Behavioral Assessment” held on 31st August, 2018 (Friday). Dr. Vinod Tiwari, Assistant Professor, Department of Pharmaceutical Engineering & Technology, Indian Institute of Technology (B.H.U.) was one of the speaker. He gave his talk on “Stereotaxic Surgery: Applications in Pre-clinical Research Including Optogenetics”. Dr. Niyati Acharya, Head, Department of Pharmacognosy, Institute of Pharmacy, Nirma University, gave a talk on the topic “Experimental screening models for Alzheimer’s diseases”. There were a total 24 students and 6 faculties participated in the workshop from various institutions. Out of which, 3 students are from the Institute of Pharmacy and 1 student from Institute of science, Nirma University. Total 10 external students and 6 faculties from various pharmacy institutions came to attend the workshop. In the workshop participants got the exposure of brain surgery using stereotaxic apparatus and Microdialysis and behavioral assessment methods for rodents in various models.

### **Nirmaquest 2020 on 4<sup>th</sup> March, 2020**

Nirma Quest, national quiz competition was organized on March 4, 2020. This involved pharma and non-pharma quiz competition and more than 100 participants from various institutes participated

### **NSPA – 2019 on 17<sup>th</sup> August, 2019**

The National Seminar of Pharmaceutical Analysis titled “Challenges & Opportunities in Analytical Characterization of Biosimilars” was organized by Department of Pharmaceutical Analysis, Institute of Pharmacy, Nirma University, Ahmedabad on dated 17th August 2019. This seminar has been sponsored by Gujarat State Biotechnology Mission (GSBTM) and Department of Science and Technology-Science and Engineering Board (DST-SERB). In this seminar total no. of participants from the various institute / universities of India was participated & total 29 paper was presented. The seminar constituted a good opportunity of young scientist to gain their knowledge and also help to build their career. There was various interesting topics and the speaker was sharing their valuable experience and knowledge while presenting their topics. The seminar met their objective to familiarizing the participants with the development of new approaches in analytical characterization of Biosimilars. The department of Pharmaceutical Analysis looking forward to organize future seminars related to various other

interesting topics. The main output of the seminar is a proceeding comprising detailed and complete information of the paper presented during the Seminar and a statement of Recommendation.

### **NSRA – 2019 on 31<sup>st</sup> August, 2019**

Department of Pharmaceutical Analysis, Institute of Pharmacy organized a National Seminar on Regulatory Affairs on “Current Insights in Regulations of Biotherapeutics” on 31<sup>st</sup> August 2019. Dr. Rustom Mody, Sr. Vice President & Head, R & D, Lupin Ltd., Pune was the Chief Guest in the Inaugural programme. Dr. Anand Bhadalkar, Joint Director, GSBTM, Gandhinagar graced the function as Guest of Honour. Dr. Bobby George (Vice President & Head Regulatory Affairs, Reliance Life Sciences Pvt. Ltd, Mumbai) Dr. Pranjal Bordoloi (Vice President - Clinical, Medical Affairs and Pharmacovigilance, Veeda Clinical Research, Ahmedabad), Dr. Parva Purohit (Sr. Vice President R&D, Kashiv Biosciences, Ahmedabad) Dr. Krishna Menon (Senior Scientist, Global Biologics, United States Pharmacopeia, Hyderabad) delivered plenary lectures during scientific sessions. About 40 participants from various institutes of Gujarat participated in the seminar and presented posters on the theme of the seminar.

### **SNDD 2019 one day Seminar on 22<sup>nd</sup> October, 2019**

One day Seminar on “Nano Drug Delivery, SNDD’2019” was organized under the banner of Centre for Continuing Education (CCE) by Department of Pharmaceutics, Institute of Pharmacy, Nirma University on October 22, 2019. More than 100 participants from various Pharmacy Institutes attended the event. Dr. Ajay Khopade (Vice President, Drug Delivery & Manufacturing and Head, Formulations (Non-Oral), Sun Pharma Advanced Research Company Ltd, Vadodara was the Chief Guest and Dr. Yashwant Pathak (Professor and Associate Dean for Faculty Affairs, University of South Florida, Tampa, Florida, USA) was the Guest of Honor for the Inaugural function. Dr. Ajay Khopade delivered a key-note address on the subject “Translation of a nano-ophthalmic product from idea to market”. Dr. Yashwant Pathak delivered a lecture on “Nano is too big, Nano Medicine: The future of Pharmacology and Medicine”. Dr. Nina Sharma (Managing Director, Shamisha Resources Management LLP) delivered a lecture on “Tech Transfer and Commercialization of Nanotechnology Formulations”. Dr. Sameer Dalvi (Associate Professor, IIT, Gandhinagar) delivered a talk on the topic “Engineering Microbubbles for ultrasound contrast imaging and drug delivery applications.” During the post-lunch session, demonstration of various equipments like High shear homogenizer, particle size analyzer and high pressure homogenization was conducted. Posters on the “Nano drug delivery” based theme were presented by the participants and prizes were distributed to the winners. Dr. Jayesh Ruparelia (Professor and Head, Department of Chemical Engineering, Institute of Technology, Nirma University) gave the concluding remarks.



Participants of Seminar on “Nano Drug Delivery, SNDD’2019”

### **One day Workshop on Medical Writing on 15<sup>th</sup> February, 2020**

Department of Pharmacology, Institute of Pharmacy under the banner of Centre for Continuing Education (CCE), Nirma University, Ahmedabad organized “One Day Workshop on Medical Writing”, on February 15, 2020. Dr. Anupama Ramkumar, CEO & Principal Consultant, Arkus Research Pvt. Ltd. Ahmedabad, India, Prof. Sunil Jambhekar, Professor of Pharmaceutical Sciences, LECOM School of Pharmacy, Florida, USA and Dr. Rakesh Ojha, Principal Medical Writer, Syneos Health, Global Medical Writing, Pune, Maharashtra, India, were the resource persons. 94 participants from all across the Gujarat attended the workshop actively.

### **Workshop on “Computer Aided Drug Software, Supported by Schrodinger Inc., USA” on January 21, 2020**

Department of Pharmaceutical Chemistry, Institute of Pharmacy under the banner of Centre for Continuing Education (CCE), Nirma University, Ahmedabad organized a workshop on “Computer Aided Drug Design Software, Supported by Schrödinger Inc., USA” on January 21, 2020. Two Application Scientists from Schrodinger Dr. Prajwal Nandekar and Dr. Vinod Devaraji were the resource persons. 33 participants from various Institutes across the country like IIT-BHU Varanasi, BITS Pilani, DAVV Indore, MS University, Baroda; Gujarat University, Shyamsundar College West Bengal, ARIBAS Anand, SP University, Anand etc. attended the workshop actively.



Participants of the workshop on “Computer Aided Drug Design Software”

### **Workshop on Pharmacovigilance from October 3-5, 2019**

Institute of Pharmacy organized workshop on Pharmacovigilance in association with Institute of Clinical Research (ICRI) for students of MPharm and BPharm from 3<sup>rd</sup> to 5<sup>th</sup> October, 2019. Ms. Garima Gaur, a multifaceted medical professional with more than 16 years’ experience from ICRI conducted this workshop. The workshop helped the students to develop good understanding of basic principles and skills employed within Clinical Research and pharmacovigilance globally. Various modules pertaining to Adverse Drug Reactions Reporting, Causality Assessment, Surveillance Methods, ICH E2A & E2E Guidelines, Signal Detection, Data and Safety Monitoring Boards were covered during the three days workshop. Hands-on specialized software training as a part of the workshop was also provided to the students.

### **Faculty Development Programme under the Banner of IQAC-I**

Two days Faculty Development Programme on “**Teaching Methodology**” under the banner of **IQAC – I** for all the faculty members was organized on 11-12<sup>th</sup> July, 2019. The lectures related to advance ICT tools used for teaching, role of social media, information technology use of advanced excel tools, tools for effective presentation etc. were covered by experts of these areas. The faculty members were also made aware about effective website and blog creation. The problem solving with suitable case study with one to one discussion was made for each topic for better teaching-learning. Overall, the program was found to be very useful and knowledge gaining to all faculty members.

### **Research Talks / Lectures Organized by the Institute**

It is a regular practice at the Institute of Pharmacy to arrange research related expert talks by eminent personalities from Industry and Academia. Following are the details of some of the talks/lectures organized by Institute of Pharmacy.

1. "Quality Systems and practices in Pharmaceutical Industry" by Ms. Smita Patel, Founder and Director, QuicQ GMP Consultancy Services on 4<sup>th</sup> April, 2019.
2. "Protein Characterization by Mass Spectrometry" by Dr. Dipak Thakur, Director, ACRNS Analytical Technologies Pvt Ltd., Mumbai on 6<sup>th</sup> April, 2019.
3. "Carcinogenicity" by Dr. Indermeet Singh Anand, Professor, Sarvajanic Pharmacy College, Mehsana on 20<sup>th</sup> April 2019
4. "Application of Quality by design concept in the formulation development: A case study" by Dr. M. C. Gohel, Research Director, Anand Pharmacy College on 22<sup>nd</sup> April 2019.
5. "Thalassemia" by Dr. Anil Khatri, Consultant Pediatrician, Ahmedabad on 25<sup>th</sup> April 2019.
6. "Awareness for Prevention of Plagiarism in Research" by Shri Manoj Kumar, Scientist-D (CS), INFLIBNET, Gandhinagar on 25<sup>th</sup> April 2019.
7. "Innovation, Patents and Business Strategy" by Dr. Nehal Bhatt, DGM, Global IP, Amneal Pharma, Ahmedabad on 26<sup>th</sup> April 2019
8. "UHPLC: Basics of Techniques and Application" by Dr. Ajit Datar Senior Advisor-Shimadzu Analytical (India) Pvt. Ltd on 1<sup>st</sup> August 2019.
9. "Molecular Modeling - A Bird's Eye View" by Prof. Evans Coutinho, Professor, Dept. of Pharm. Chemistry, Bombay College of Pharmacy, Mumbai on 9<sup>th</sup> August 2019.
10. "Hot-melt extrusion, a pharmaceutical application" by Prof. P.R. Vavia, Professor, ICT, Mumbai on 13<sup>th</sup> August 2019
11. "Malvern PEAQ-DSC-Ultimate technique to elucidate of higher order structure, stability and tight binding constants of Bio molecules" by Dr. T. Muraleedhara Reddy, Senior Executive-Application Scientist, Toshniwal Brothers (SR) Private Limited, Bangalore on 20<sup>th</sup> August 2019.
12. "Basic fundamentals and applications of Chromatography and Mass spectrometry in analysis of bio-therapeutics" by Dr. Prinesh Patel, Sr. Product Specialist - MS Waters, Ahmedabad on 26<sup>th</sup> August 2019.
13. "Immunotherapeutics: Basics and Applications" by Dr. Leena Patel, Head, Scientific Writing, CBCC, Ahmedabad on 30<sup>th</sup> August 2019.
14. "Regulatory requirements for ANDA Filing" by Dr. Ketan Savjani, General Manager, Emcure Pharmaceuticals Limited, Gandhinagar on 20<sup>th</sup> September, 2019.
15. "Transformation of Pharmacy Education" by Prof. Vassilios Papadopoulos, Dean, USC School of Pharmacy, USA on 30<sup>th</sup> September, 2019.
16. "Discussion on current scenario of Product Development" by Dr. Roop Khar, Former Dean and Head, Jamia Hamdard, New Delhi on 9<sup>th</sup> October, 2019.
17. "Process of Sterilization in the Pharmaceutical Industry" by Mr. Tishir Gandhi, Research Associate, ZRC, Cadila Healthcare Ltd., Ahmedabad on 11<sup>th</sup> October 2019.
18. "Understanding Drug Addiction" by Dr. Parth Vaishnav, Psychiatrist, Samvedana Happiness Hospital, Ahmedabad on 11<sup>th</sup> October 2019.
19. "Flash Chromatography" by Mr. Karthik Bhat, Product Manager with Inkarp instruments Mumbai on 18<sup>th</sup> October 2019.
20. "Reactions and Acidity of Aromatic Acid Derivatives" by Mr. Vishalgiri Goswami, Chemistry Program Manager, Kashiv Biosciences, NCE Discovery, Ahmedabad on 19<sup>th</sup> October 2019.

21. "Basic concepts of dietary supplements and functional food" by Dr. Nisith Raval, Manager, Formulation and Development, Meteoric Biopharmaceuticals Pvt. LTD on 25<sup>th</sup> October 2019.
22. "Introductory seminar about student opportunity for an international internship" by Mr. Mohammad Mutvalli, AIESEC, Ahmedabad on 23<sup>rd</sup> October, 2019.
23. "Clinical Data Management" by Dr. Anupama Ramkumar, Director, Arkus Research Pvt. Ltd., Ahmedabad on 11<sup>th</sup> November, 2019.
24. "Mucosal Vaccine Delivery Approaches via The Respiratory Route" by Dr. (Mrs) M. D. Menon, Adjunct Professor-Pharmaceutics, Bombay College of Pharmacy, Kalina, Mumbai on 14<sup>th</sup> November, 2019.
25. "Outreach activities of Atal Incubation Centre in area of Pharmaceutical and Healthcare sector" by Dr. Shrinivas Savale, CEO, Atal Incubation Centre, L. M. College of Pharmacy on 21<sup>st</sup> November, 2019.
26. "Clinical Pharmacokinetics" by Dr. Gaurang Shah, Professor, L. M. College of Pharmacy, Ahmedabad on 25<sup>th</sup> November, 2019.
27. "Nanoparticle Characterization using Horiba SZ-100" by Mr. Nitin Jade, Service Manager, Advance Scientific Equipment Pvt. Ltd Mumbai on 11<sup>th</sup> December, 2019.
28. "Lasik Surgery" by Dr. Anuja Desai, Director, Academics for KD Hospital and KD Institute of Nursing Sciences on 26<sup>th</sup> December, 2019.
29. "A Ringside view of the challenges before Higher Technical Institutions of India" by Prof. Manoj Kumar Mishra, Ex. Vice Chancellor, Birla Institute of Technology, Mesra, Ranchi on 26<sup>th</sup> December, 2019.
30. "Future Pharmaceuticals - Safe Design of Drug Delivery Systems" by Dr. Gowthamarajan Kuppusamy, Professor & Head, JSS Academy of Higher Education & Research, Ooty on 6<sup>th</sup> January, 2020.
31. "Complex Injectable drug delivery and its challenges" by Mr. Keyur Butani, Dr. Reddy's Laboratory, Hyderabad on 3<sup>rd</sup> February, 2020.
32. "IVIVC and PK Software" by Prof. Sunil Jambhelkar, Professor of Pharmaceutical Sciences, LECOM School of Pharmacy, 5000 Lakewood Ranch Boulevard Bradenton, Florida, USA on 11<sup>th</sup> February, 2020.
33. "Basic Concept of Pharmacokinetics" by Prof. Sunil Jambhelkar, Professor of Pharmaceutical Sciences, LECOM School of Pharmacy, 5000 Lakewood Ranch Boulevard Bradenton, Florida, USA on 11<sup>th</sup> February, 2020.
34. "Problem Solving in Research Projects" by Prof. Sunil Jambhelkar, Professor of Pharmaceutical Sciences, LECOM School of Pharmacy, 5000 Lakewood Ranch Boulevard Bradenton, Florida, USA on 15<sup>th</sup> February, 2020.
35. "Carrier options in Healthcare management sector" by Ms. Neha Lal, Senior General Manager, Hospital Operation Hospital Operations & HR GCS Medical College, Hospital and Research centre Ahmedabad on 20<sup>th</sup> February, 2020.
36. "Convolution and deconvolution in IVIVC" by Dr. Punna Rao Ravi, BITS Pilani, Hyderabad on 2<sup>nd</sup> March, 2020.
37. "Oxidations in Organic Synthesis" by Dr. Ranjeet V. Nair, Head-CMC, Zydus Research Centre, Ahmedabad on 13<sup>th</sup> March 2020.

## Technical Talk by ALUMNI Members

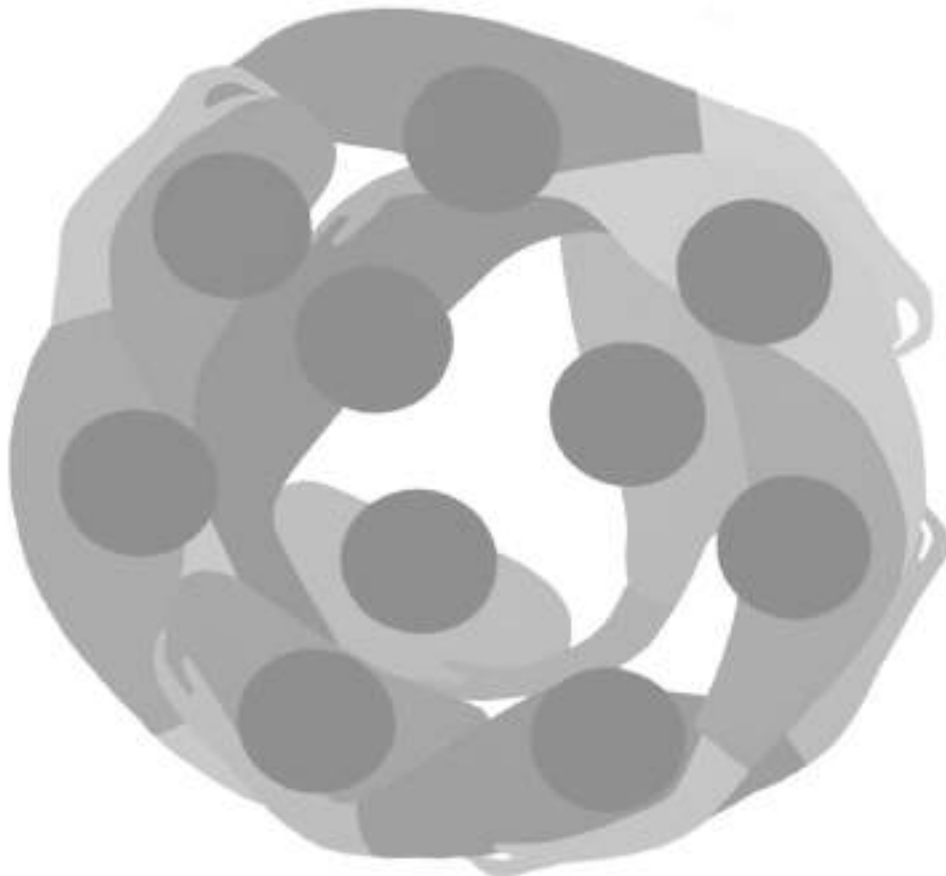
1. MPharm alumni, Dr. Nitesh Shah (05MPH003), Head - Technical Services, South Asia at Evonik, Mumbai delivered a Technical Talk entitled "3D Printing Technology in Modern Pharmaceutical Era" on 04.09.2019 (Wednesday) to students of B.Pharm. Semester VII, M.Pharm (Pharmaceutics).
2. MPharm Alumni - Mr. Vishal Nagar (09MPH410), Research Scientist, Pharma Solution Piramal Discovery, Ahmedabad delivered a Technical Talk on "Strategies of synthesis for medicinal compounds" on 06.09.2019 (Friday) to students of B.Pharm. Semester-V & VII, M.Pharm (Pharmaceutical Chemistry).
3. BPharm Alumni - Dr. Shivang Chaudhary (04BPH047), Chief Knowledge Officer (CKO) & Founder Director of QbD-Expert™, delivered Technical Talk on "Quality-by-Design (QbD) for Pharma Product Development" on 07.09.2019 (Saturday) to students of B.Pharm. Semester - VII, M.Pharm (Pharmaceutics) and PhD Research scholar
4. MPharm Alumni - Mr. Tarun Patel (06MPH008), Sr. Research Scientist - Formulation Development, Piramal Enterprises Limited, Ahmedabad, delivered Technical Talk on "Fluidized Bed Processing - MUPS" on 12.09.2019 (Thursday) to students of B.Pharm. Semester - VII.
5. BPharm & MPharm Alumni - Dr. Amit Gajjar (03BPH003, 07MPH201), Manager, Medical Services, Aprica Healthcare Pvt. Ltd., delivered Technical Talk on "Introduction to BA-BE studies" on 21.09.2019 (Saturday) to students of MPharm (Pharmacology).
6. MPharm Alumni - Mr. Chirag Mehta (11MPH401), Associate Scientist - II, Kashiv Biosciences, Ahmedabad, delivered Technical Talk on "Introduction to Histamine and Discovery and Development of H2 Antagonists" on 21.09.2019 (Saturday) to students of BPharm Semester - V.
7. MPharm Alumni - Ms. Prajakta Kulkarni (13MPH605), Former Research Associate at Oxygen Healthcare Research Pvt. Ltd. Ahmedabad, delivered Technical Talk on "Scope of Organic Chemistry in the Pharmaceutical Industry" on 21.09.2019 (Saturday) to students of BPharm Semester - III.
8. MPharm Alumni - Ms. Richa Rajpara (15MPH809), Sr. Executive, Zydus Research Centre, Ahmedabad, delivered Technical Talk on "Product Life Cycle Management: Recent Update" on 21.09.2019 (Saturday) to students of MPharm (Regulatory Affairs).
9. M.Pharm. Alumni - Tishir Gandhi (12MPH115), Research Associate, Zydus Research Centre, Ahmedabad, delivered technical talk on "Process of Sterilization in the Pharmaceutical Industry" on October 11, 2019 to students of BPharm Semester - III.
10. B.Pharm & M.Pharm. Alumni - Mr. Mikul Soni (05BPH067 & 09MPH306), Deputy Manager, ADL (Pulmonary), Zydus Healthcare Ltd. Ahmedabad, delivered Technical talk on "Analytical Methods, Development, Stability Studies, and Validation: Industrial Perspective" on October 17, 2019 to M.Pharm Semester - I & III students.
11. M.Pharm Alumni - Dr. Devang Patel (05MPH011), Global Clinical Development, ELC Research Group Pvt. Ltd. Ahmedabad, delivered Technical Talk on "Pharmacovigilance Activities in Europe" on October 19, 2019 to MPharm (Pharmacology) Sem - I & III students.

12. M.Pharm & Full-time PhD Alumni - Dr. Udit Chaube (12MPH602, 14FTPHDP30), Senior Research Fellow, National Innovation Foundation (Autonomous Body of DST, Govt. of India), Gandhinagar, delivered Technical Talk on “Limit tests and their importance for the identification of the impurities” on October 19, 2019 to B.Pharm. Sem - I students.
13. M.Pharm. Alumni - Gaurav Panchal (07MPH202), Scientific Officer, Blood alcohol division (Chemistry Department), Forensic Department under Govt. of Gujarat, Ahmedabad delivered Technical Talk on "Newer developments in Antidiabetic drugs” on October 22, 2019 to BPharm Semester - V Students.
14. PhD Alumni - Dr. Nisith Raval (13FTPHDP23), Manager, Formulation and Development, Meteoric Biopharmaceuticals Pvt. LTD delivered Technical talk on "Basic concepts of dietary supplements and functional food” on October 25, 2019 to B.Pharm. Semester - VII Students.
15. Alumni from M.Sc Cosmetic Technology - Disha Pandya (14MCT103), Senior Research Executive, Research & Development, Zydus Wellness will delivered a Technical Talk on "Industrial Utilization and Applications of Volatile oils, Resins and Flavonoids" on October 22, 2019 to B.Pharm Semester - V Students.





Research Report  
of  
Institute of Science





# INSTITUTE OF SCIENCE

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Completed Major Research Projects	03	95,63,000/=
Ongoing Major Research Projects	06	2,39,37,474/=
Sanctioned Major Research Projects	04	1,95,66,216/=
<b>Minor Research Projects</b>		
Sanctioned Minor Research Projects	02	2,00,000/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		21
Book Chapters Published		05
<b>Doctoral Research</b>		
Ph.D. Degree Awarded		11
New Ph. D. Students Enrolled in this Year		08
Current Ph.D. Students		43
Current Ph. D. Guides		71
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		02
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
Seminars / Workshops / Training Programmes		01
Research Talks / Lectures		22

## Research Projects

### Major Research Projects

#### Completed Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Infectious Status of Plasmodia Modulating the Innate Response in Determining the Fate of Liver-Stage Specific Cd8+ T Cells that Ensure Long-Lived Protection Against Malaria	Dr. Sarat Kumar Dalai	Science and Engineering Research Board (SERB), DST	52,10,000/-
2.	Development of Chimeric Il-15 to Improve its Bioavailability and Efficacy	Dr. Sarat Kumar Dalai	Department of Biotechnology (DBT)	34,18,000/-
3.	Investigation of the Regulatory Role of mir-712 in Inflammation Induced Skeletal Muscle Insulin Resistance	Dr. Sriram Seshadri	Science and Engineering Research Board (SERB), DST	9,35,000/-
<b>Total Grant</b>				<b>95,63,000/-</b>

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Development of Integrated Wastewater Treatment Systems Using Alternative Innovative Approaches of Microbial Fuel Cells, Magnetic Nanoparticles and Vermicomposting with Water Hyacinth for Secondary Sludge Management	Dr. Nasreen Munshi, Dr. Manisha Shah, Dr. Chetna Chauhan.  (This project is of interdisciplinary nature and combined with Institute of Technology, Nirma University and Veer Narmad South Gujarat University)	Gujarat State Biotechnology Mission (GSBTM)	48,96,574/-

2.	Elucidating the Role of Short Chain Fatty Acids (SCFAS) and Its Receptors in High Sugar Diet Induced Type II Diabetes	Dr. Sriram Seshadri	Gujarat State Biotechnology Mission (GSBTM)	22,52,000/-
3.	Investigating the Role of CRC in Regulation of PQQ GDH Involved In MPS Phenotype of Acinetobacter SP. and its Repression	Dr. Shalini Rajkumar	Department of Science & Technology (DST)	38,73,200/-
4.	Bone Metastatic Signature in Indian Breast Cancer Patients	Dr. Heena Dave	Department of Science & Technology (DST)	7,25,000/-
5.	FIST Infrastructure Grant	Dr. Sarat Dalai	Department of Science and Technology (DST)	92,00,000/-
6.	Microbial Fuel Cell: An Approach for Wastewater Treatment with Generation of Green Electricity	Dr. Nasreen Munshi, Dr. Manisha Shah	Nirma University	29,90,700/-
<b>Total Grant</b>				<b>2,39,37,474/-</b>

### Sanctioned Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Studying the Immune Adjuvant Potential of Chimeric IL-15	Dr. Sarat Kumar Dalai	Gujarat State Biotechnology Mission (GSBTM)	49,48,216/-
2.	Understanding the Functional Role of Vacuolar ATPases in Trophocytosis and Tissue Invasion Mediated by Entamoeba Histolytica	Dr. Kuldeep Verma	Science and Engineering Research Board (SERB), DST	29,91,700/-
3.	Understanding the Spatiotemporal Dynamics and Ultrastructure Details of	Dr. Kuldeep Verma	Science and Engineering Research	38,51,300/-

	ECM Degrading Device Amoebic Invadosomes and their Crosstalk with RAB GTPases and Cell Surface Proteases Trafficking Machinery in E. Histolytica		Board (SERB), DST	
4.	Engineered Bioremediation Approaches for Onsite Treatment of Soil Contaminated with Crude Oil	Dr. Nasreen Munshi, Dr. Shalini Rajkumar	Department of Biotechnology (DBT)	77,75,000/-
This is a National Collaborative research project with a total fund of the project is 8,42,92,612 crores sanctioned by Department of Biotechnology (DBT). The other collaborative partners are National Environmental Engineering Research Institute, Nagpur; Indian Institute of Toxicology Research, Lucknow; Assam University, Indian Institute of Technology, Bombay; Indian Institute of Delhi; National Institute of Oceanography Goa; The Energy and Resources Institute, New Delhi; Institute of Advanced Study in Science & Technology, Assam.				
<b>Total Grant</b>				<b>1,95,66,216/-</b>

## Minor Research Projects

### Sanctioned Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in ₹)
1.	Understanding the Functional Role of Sar1-Like GTPases Homologue from Entamoeba Histolytica	Dr. Kuldeep Verma	Nirma University	1,00,000/-
2.	To Investigate the Expression of T Cell and Their Subsets (Th1, Th2, Th17 And Treg) Cells in The Melanoma	Dr. Dablulal Gupta	Nirma University	1,00,000/-
<b>Total Grant</b>				<b>2,00,000/-</b>

## Research Publications

### Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Bakshi S R et al. "Cytogenetics of Recurrent Spontaneous Abortions: A Study of 250 Products of Conception" *International Journal of Human Genetics* 1994) (2019): 165-169.
2. Harsh Kumar Pushpa et al. "The Exocyst Complex and Rab5 are required for Abcission by Localizing Escrt Iii Subunits to the Cytokinetic Bridge". *Journal of Cell Science* 131(14) (2019): doi.org/10.1242/jcs.226001
3. Sarat K Dalai et al. "Whole Sporozoite Vaccination: Duration between Successive Immunization Dictates the Fate of Protective Immunity". *Journal of Pediatrics and Pediatric Medicine* 3(3) (2019): 1-6.
4. Nair Ameer and Madhavi Joshi. "Hypoglycemia Causes Dysregulation of Neuregulin 1, ErbB Receptors, Ki67 in Cerebellum and Brainstem during Diabetes: Implications in Motor Function". *Behavioural Brain Research* 372 (2019): 1120-29.
5. Sarat K Dalai et al. "MHC II (DRB) Promoter Polymorphisms and its Role in Parasite Control Among Malaria Patients". *Journal of Immunology*. 204(4) (2020): 943-953.
6. Munshi N et al. "Development of Fluorescent Protein-Based Biosensing Strains: A New Tool for the Detection of Aromatic Hydrocarbon Pollutants in the Environment". *Ecotoxicology and Environmental Safety* 180 (1) (2019): 109-450.
7. Munshi Nasreen et al. "Structure Prediction and Molecular Docking Studies of Aromatic Hydrocarbon Sensing Proteins Tbut, Hbpr and Phnr to Detect Priority Pollutants". *Journal of Environmental Science and Health, Part A*, 55(1) (2019): 126-141.
8. Seshadri S et al. "Characterizing Xylooligosaccharide (Xos) for its Prebiotic Properties- An in Vitro Study". *International Journal of Research and Analytical Reviews*. 6(2): 2019: 185-191.
9. Rajkumar Shalini and Bharwad Krishna. "Rewiring The Functional Complexity between CRC, HFQ and sRNAs to Regulate Carbon Catabolite Repression in Pseudomonas". *World Journal of Microbiology and Biotechnology* 35 (2019): 140-152.
10. Rajkumar Shalini and Iyer Bhagya, "Succinate Irrepressible Periplasmic Glucose Dehydrogenase of Rhizobium Sp. Td3 and Sn1 Contributes To its Phosphate Solubilization Ability". *Archives of Microbiology* 201 (2019): 649 – 659.
11. S. Shriram V. Seshadri et al. "Statins Exacerbate Glucose Intolerance and Hyperglycemia in A High Sucrose Fed Rodent Model". *Scientific Reports* 9(2) (2019): 8825-8831.
12. Seshadri et al. "Evaluating the Role of Dithiolane Rich Fraction of Ferula Asafoetida (Apiaceae) for its Anti-Proliferative and Apoptotic Properties in Vitro Studies". *Experimental Oncology* 41 (2) (2019): 90-94.
13. Rajkumar S. et al. "Glucose and Arabinose Dependent Mineral Phosphate Solubilization and its Succinate-Mediated Catabolite Repression in Rhizobium Sp. Rm and Rs". *Journal of Bioscience and Bioengineering* 128 (5) (2019): 551-557.
14. Seshadri et al. "An in Vitro Study of the Prebiotic Properties of Xylooligosaccharide (Xos) and Organoleptic Evaluation of Xos Added Prawn Patia and Black Rice Kheer". *Bioactive Compounds in Health and Disease* 3(1) (2020): 1-14.
15. Rajkumar S. and Bharward K, "Modulation of PQQ-Dependent Glucose Dehydrogenase (MGDH and SGDh) Activity by Succinate in Phosphate Solubilizing

- Plant Growth Promoting Acinetobacter Sp. Sk2". 3 Biotech 10(1) (2020): doi: 10.1007/s13205-019-1991-2.
16. Dave H. and Trivedi S, "Carica papaya: Potential Implications in Human Health". Current Traditional Medicine 5(4) (2019): 321-336.
  17. Patel P. et al. Supernatants of the probiotic bacterial cultures at sub-MIC levels attenuates virulence of pathogenic bacteria towards the model host *Caenorhabditis elegans*. *Infectious Disorders - Drug Targets* (20)1. (2020). DOI: 10.2174/1871526519666191211141827.
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  19. Patel H et al. Anti-pathogenic potential of a classical ayurvedic formulation- *Triphala*. *F1000Research*, 8:1126 (2019). <https://doi.org/10.12688/f1000research.19787.1>.
  20. Patel P et al. Antipathogenic Potential of a Polyherbal Wound-Care Formulation (Herboheal) against Certain Wound-Infective Gram-Negative Bacteria. *Advances in Pharmacological Sciences*, vol. (2019), Article ID 1739868, 17 pages, 2019. <https://doi.org/10.1155/2019/1739868>.
  21. Joshi C et al. (2019). Anti-infective potential of hydroalcoholic extract of *Punica granatum* peel against gram-negative bacterial pathogens. *F1000Research*, 8:70 (<https://doi.org/10.12688/f1000research.17430.1>).

## Book Chapters Published

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Sarat Dalai, Nikunj Tandel, Devang Trivedi	Application of Radiation Technology: A Novel Vaccine Approach to Induce Protective Immunity Against Malaria Infection	Ionizing and Non-Ionizing Radiation	Intech open	978-953-51-6100-4	2020
2.	Sonal Bakshi, Abhipsa Debnath, Priti Mehta	In Vitro Micronucleus Assay: Scope for Genotoxicity	Micronucleus Assay: An Overview	Nova Science Publishers Inc., New York, USA	ISBN 978-1-53616-679-8	2020

		Assessment and Beyond				
3.	Shalini Rajkumar, Krishna Bharwad	An Overview on Phosphate Solubilizing Bacteria (Psbs) and Factors Affecting Their Performance	Plant Growth Promoting Microorganisms: Microbial Resources for Enhanced Agricultural Productivity	Nova Science Publishers, New York, USA	978-1-53615-776-5	2019
4.	Sriram Seshadri, Sunny Kumar, Rozmeena Patel	The Role of Nutraceuticals in Preventing and Managing Mental Disorders	Functional Food Textbook Vol 7: Functional Foods and Mental Health	Food Science Publisher, USA	978-1-70441-187-3	2019
5.	Dablu Lal Gupta, Tejprakash Sinha, Sanjeev Bhoi, D.N Rao	Cytokine Gene Polymorphism and Sepsis	Infectious Process and Sepsis	Intechopen	978-1-83880-394-0	2019

### Ph.D. Awarded

Sr. No.	Name of the Student	Name of the Guide / Supervisor	Title of Thesis
1.	Naveen Yadav	Dr. Sarat Dalai	Understanding the Plasmodium berghei liver-stage specific CD8 + T Cells: maintenance and role in liver damage
2.	Aditi Mohan Krishnan	Dr. Sarat Dalai	Inclusion of Non-target antigen in vaccination favors generation of OV A specific CD4 Memory T Cells
3.	Rajesh Parmar	Dr. Sarat Dalai	Infectious Nature of Plasmodium berghei sporozoite modulates APCs to induce better liver-stage memory CD8+T cells
4.	Harish Seth	Dr. K. R. Murali	Study of spectral Characterization of Electro-optical sensors and apply it to

			analyze multispectral and Hyper Spectral Payloads
5.	Saiyed Nazia Mohammedahmed	Dr. Sonal Bakshi	A Study of Birth Defects: Genetic and Epigenetic Determinants
6.	Garima Joshi	Dr. Ganesh Ravi	Experimental studies of plasma in Electron magnetohydrodynamic regime
7.	Neha Patni	Dr. Shibu Pillai	Study of Polyaniline Based Composites for Electrochemical Applications
8.	Joshi Chinmayi Kamleshkumar	Dr. Vijay Kothari	Investigation on anti-pathogenic potential of Panchvalkal and Punica granatum peel extract against certain human-pathogenic bacteria
9.	Zala Dolatsinh Balvantsinh	Dr. Sarat Dalai	Study of Epidemiology and Development of Serodiagnosis of Leptospirosis in Union Territory of Dadra Nagar Haveli
10.	Sudhakar Sharma	Dr. A. S. Rajawat	Hydrological Modelling of Lower Tapi Basin for Flood Vulnerability and Risk Assessment – Study based on Remote Sensing and GIS Techniques
11.	Darji Avani Devendrabhai	Dr. Shalini Rajkumar	Isolation, Characterization and Development of Cell Lines from Acute Myeloid Leukemic Patients

## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Dr. D. L. Gupta	Swastha Jyoti Paritoshik-Indusem Award 2019	Emergency Medicine Association & The Academic College of Emergency Experts, AIIMS, New Delhi	Certificate
2.	Dr. Vijay Kothari	Artificial Intelligence Molecular Screen (AIMS) Award	Atomwise INC., USA	Certificate

## Conferences / Seminars / Workshops / Training Programmes Organized by the Institute

### Workshop on, “Flow cytometry in Research and Health Care”

Institute of Science, Nirma University organised a three days workshop on “Flow cytometry in Research and Health care” on 3<sup>rd</sup> to 5<sup>th</sup> March 2020 under aegis of Center for Continuing Education (CCE), Nirma University and Indian Immunology Society (IIS). The intent of the workshop was to familiarize the participants about the use of Flow cytometer in basic research and health care. The workshop was coordinated by Dr. Dablu Lal Gupta, Assistant Professor, Institute of Science, Nirma University. Dr. Subhada Chiplunkar, Director, Advanced Center for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Center, Mumbai was the chief Guest of the inaugural session. Professor, N.K Mehra, Former Dean of Research, All India Institute of Medical Sciences (AIIMS), New Delhi presided over the function.

As part of this workshop, we had one day lecture series by five eminent speakers working in the various areas of immunology such as Cancer Immunology, Immunology of T cell and Monocytes Transplantation Immunology followed by two days hands on training of Flow cytometer. The hands on training and detailed analysis was conducted by using Attune NxT Flow cytometer and relevant software. The hands-on training covered the instrument setting, compensation, multicolor immunophenotyping, cell cycle analysis and apoptosis. A total of 82 participants were attended day one lecture series and 27 participants were attended the entire workshop of three days. This workshop was financially supported by Gujarat State Biotechnology Mission (GSBTM), Department of Science & Technology, Government of Gujarat and Indian Immunology Society of Rs.60,000/- and 30,000/- respectively.



Workshop on “Flow cytometry in Research and Health care”

## Public Lecture Organized by the Institute

**Challenges and Opportunities in Higher Education-** A public lecture was organized by the institute on 28/02/2020. The lecture was delivered by Dr. V.S. Chauhan, Chairman, NAAC Executive Committee. He spoke on “Challenges and Opportunities in Higher Education in India”.



Dr. V. S. Chauhan delivering a public lecture at Nirma University

## Extramural Lecture Organized by the Institute

**Contours of Biomedical R&D in India** – An extramural Lecture was organized by the on the occasion of the Institute foundation day on 05/09/2019. The lecture was delivered by the prominent speaker Dr. G. Padmanabhan, Former Director, IISc. Bangalore.

## Research Talks / Lectures Organized by the Institute

Institute of Science arranges research related expert talks by eminent personalities from Industry and Academia on regular bases. This encourages faculty members and students to learn about research work being carried out at different places. Following are the details of some of the talks/lectures organized by the institute.

1. Good Laboratory Practice and Biosafety by Dr. Umashankar Asst. Professor IIT, Gandhinagar on 25/01/2020.
2. How to Read Scientific Literature & Introduction to MAANAV by Dr. Dhara Lakhkar MANNV - The Human Atlas Initiative, IISER, Pune V on 22/01/2020.
3. Healthcare Industry Orientation and Career Guidance by Dr. Nishodh Saxena Founder & Managing Director Pharma Knowledge Centre on 15/02/2020.
4. Molecular Targets for Prostate Cancer by Dr. Sushant Kachhap Asst. Professor John Hoppkins University on 19/12/2019.
5. An Expert Lecture by Dr. L. S. Shashidhara Dean of Research & Professor of Biology Ashoka University on 09/12/2019.

6. Identifying and Validating Sirtuins as Potential Targets for Diabetes and its Associated Cardiac Complication By Dr. Sanjay K Banerjee Principal Scientist II Translational Health Science and Technology Institute on 15/10/2019.
7. Case study of Developed Vaccines by Dr. Preeti Desai, Indian Institute of Advanced Research (IIAR) on 27/09/2019.
8. Detection & Prevention of Hereditary Cancer by Harsh Sheth, Institute of Human Genetics on 27/09/2019.
9. Bacterial Vaccines by Dr. Preeti Desai, Indian Institute of Advanced Research (IIAR) on 26/09/2019.
10. Pyruvate Dehydrogenase Complex: Structure-function relationship, regulation and deficiency by Dr. Mulchand Patel Department of Biochemistry, State University of New York at Buffalo, USA on 19/09/2019.
11. Genomic medicine application in clinical diagnostic science, research and development by Dr. Manish Mourya, Supra Tech Laboratory, Ahmedabad, Gujarat.on 06/07/2019.
12. Opportunity to be a “Change Maker” with Voice of SAP by Ms. Manisha Pathak, Life Coach, Motivational speaker, Community Outreach Leader (VOSAP) on 05/07/2019.
13. Science and beyond a journey worth exploring by Mr. Ashish Pandya on 05/07/2019.
14. Academic integrity” & “Immunotherapy of Cancer" by Dr. Gauri Shankar Sa, Professor of Molecular Medicine, Bose Institute, Kolkata on 05/07/2019.
15. Building Self-Confidence by Mr. Vincent Vaz, Counsellor cum Trainer on 04/07/2019.
16. M.Sc. biochemistry/Life Sciences: what's in it for me by Dr. Umesh Chand Yadav, Central University, Gujarat, Gandhinagar on 04/07/2019.
17. Sustainable Development and The Ecological Footprint by Prof Linz buoy George, Gujarat University, Ahmedabad on 03/07/2019.
18. An Expert Lecture by Dr. Anand Bhadalkar, Joint Director, Business Development, GSBTM, Gandhinagar on 03/07/2019.
19. Emerging frontiers in Cell and Molecular Biology by Dr. Naresh Kumar, MSU Baroda on 01/07/2019.
20. Recent Trends in BioPharma Industries by Dr. Rustom Mody, Lupin Pharma, Pune on 01/07/2019.





Research Report  
of  
Institute of Law





# INSTITUTE OF LAW

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Sanctioned Major Research Projects	01	10,00,000/=
<b>Minor Research Projects</b>		
Ongoing Minor Research Projects	01	1,15,000/=
Sanctioned Minor Research Projects	04	3,42,200/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		02
Books Published		01
Book Chapters Published		02
<b>Doctoral Research</b>		
New Ph. D. Students Enrolled in this Year		04
Current Ph.D. Students		13
Current Ph. D. Guides		04
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		03
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
International / National Conferences		01
Seminars / Workshops / Training Programmes		18
Research Talks / Lectures		44

## Research Projects

### Major Research Projects

#### Sanctioned Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	A Study on Public Participation in Environmental Decision-Making Process in Gujarat with Special Reference to Environment Impact Assessment Process	Prof. Madhuri Parikh, Prof. Bishwa Kallyan Dash	Indian Council of Social Science Research	10,00,000/-
<b>Total Grant</b>				<b>10,00,000/-</b>

### Minor Research Projects

#### Ongoing Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	An Empirical Study on the Status of The Undertrial Prisoners in Gujarat Central Jails	Prof. Purvi Pokhariyal	National Human Rights Commission, New Delhi	1,15,000/-
<b>Total Grant</b>				<b>1,15,000/-</b>

#### Sanctioned Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Impact on Carbon Tax on Energy Mix for Sustainable Development Goals: A Legal Study	Prof. Sukrit Garg, Prof. Neeraj Sharma	Nirma University	82,000/-
2.	Redressal of Sexual Harassment at Work Place: A Legal Study at Private Health Sector in Ahmedabad	Prof. Vikash Upadhyay	Nirma University	70,200/-

3.	Piracy of Copyrighted Content- A Case Study on Film Industry	Prof. Gunjan Arora	Nirma University	90,000/-
4.	Impact Analysis of Geographical Indications of Goods (Registration and Protection) Act, 1999 in Gujarat: Case Study of Patan Patola and Jamnagar Bandhani.	Prof. Taruna Jakhar, Prof. Gunjan Arora	Nirma University	1,00,000/-
<b>Total Grant</b>				<b>3,42,200/-</b>

## Research Publications

### Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Parikh M. "Critique of Environmental Impact Assessment Process in India". Environmental Policy and Law 49(4/5) (2019): 252-259.
2. Jakhar T. "Impact of Sanitary and Phytosanitary Measures and Technical Barriers to Trade on International Trade: Special Emphasis on Developing Countries". International Journal for Research in Law International Innovative Journal 4(3) (2019): 262-276.

## Books Published

Sr. No.	Name of the Faculty	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Gunjan Chawla Arora	Claims to Defending a Patent Infringement Suit: A Perspective Across Different Jurisdictions	Lambert Academic Publishing	978-620-045-931-2	2019

## Book Chapters Published

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Madhuri Parikh	Legal Framework for Water Governance in India: A critique	Environmental Justice Through Sustainable Water Resource Management: Issues, Challenges and Solutions	Department of Law, University of North Bengal	0976-3570	2019
2.	Gunjan Chawla Arora	The Problem of Climate Induced Displacement: Analyzing the International Framework on Protection of the Rights of Climate Migrants	Interdisciplinary Approaches to Public Policy and Sustainability	IGI Global	17998 03155, 97817 99803 157	2019

## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Month and Year	Award Category
1	Madhuri Parikh	100 Most Dedicated Professors	World Education Congress	2019	Certificate

2	Madhuri Parikh	Prof. Indira Parikh 50 Women in Education Leaders	World Education Congress	2019	Certificate
3	Madhuri Parikh	IOSRD International Research Award Women Research Award	International Organisation of Scientific Research and Development	2019	Certificate

## **Conferences / Seminars / Workshops / Training Programmes Organized by the Institute**

### **National Conference (Students) on International humanitarian and Refugee Laws**

Another event which deserves special mention is “National Conference (Students) on International Humanitarian and Refugee Law” an annual flagship event organized on November 13, 2019 by the Centre for International Humanitarian Law and Human Rights, Institute of Law, Nirma University, Ahmedabad in association with International Committee on Red Cross (ICRC) and United Nations High Commissioner for Refugees (UNHCR). The Conference was held in commemoration of the 70 years of Geneva Conventions followed by a Discussion on the success and challenges encountered in the implementation of the Conventions. Dr. Manoj Sinha, Director Indian Law Institute, New Delhi was the chief guest with other dignitaries like Captain J. S. Gill, Dr. Anuradha Saibaba and Ms. Ragini Trakroo Zutshi

### **International Seminar on Legal Education: International Perspective 2020**

A notable event that was organized by Nirma Institute of Law in February 2020 was a seminar on “Legal Education: International Perspective” wherein academics in the field of law from various foreign universities took part and shared how the legal education system in their respective countries was designed and working. The seminar was graced by academics like Dr. Luis G. Franceschi, Senior Director, Governance and Peace, Commonwealth Secretariat, London; Prof (Dr.) Stephen Thomas Hardy, Professor of Law and Dean, Coventry University Law School, United Kingdom; Dr. Peter Schaefer, Professor, HoF University, Germany; Prof Dietmar Boerner, Professor and Head, Business and Law Department, HoF University, Germany; Dr. John Winterdyk, Professor of Criminology, Mount Royal University, Vancouver, Canada; and Ricky Lee, Professor of Law, University of Notre Dame, Sydney, Australia.

## Seminars/Workshops/Training Programmes

1. Institute of Law, in May 2019 for the benefit of aspirants seeking admission in the five year integrated B.A., LL.B. (Hons.) and B. Com., LL.B. (Hons.) Programme arranged an “Open House Seminar on Career Counselling”. The event was attended by -40- aspirants along with the parents.
2. Another noteworthy event that deserves special mention is the seminar on ‘Constitutional Morality: New Wine in Old Bottle’ held in December 2019. Prof. Upendra Baxi, former Vice Chancellor of University of Delhi and University of South Gujarat and Professor Emeritus University of Warwick as the keynote speaker addressed the participants.
3. Centre for Social Justice, Institute of Law, in October 2019 organized a seminar on 'Agrarian Reforms'. Mr. Titus James, currently anchoring a programme named as Revitalising Rain Fed Agricultural Network (RRAN) discussed failures of agriculture related government policies and schemes. Mr. Praveen Muchhadiya, who works with Sahjeevan Capacity Building Partner, spoke on draught proofing, livestock and biodiversity and discussed the role of his organization in getting camel milk registered in the list of edible item under FSSAI and the importance of connecting these pastoral community to market through entities like Amul. Mr. Aditya Gujarati who works with the Centre for Social Justice, Ahmedabad explained the legislative provisions relating to conservation of biological diversity in Biodiversity Act and CAFA. Miss Catheline Kaur from the Centre for Pastoralism discussed the problems faced by pastoral communities. The session included various aspects of agrarian lives inclusive of nomadic communities and women farmers.
4. Besides ILNU, in November 2019 organised a one day seminar on "Anti-Doping Regulations, Sports Litigation & Antitrust Laws in Sport". The event was graced by Mr. Parth Goswami, partner at Phalpher & Goswami, Lawyers and Solicitors, New Delhi and Mr. Praveen Tripathi, Assistant Professor of Law, Bennett University, New Delhi.
5. Centre for Intellectual Property Rights of Institute of Law in February 2020 conducted a one day seminar on contemporary issues under International Intellectual Property Regime. Well known speakers, Prof V. K. Ahuja, Faculty of Law, University of Delhi, Dr. Rajeshkumar Acharya, H. K. Acharya & Company Advocates, Ahmedabad and Ms. Aakanksha Kumar, Assistant Professor, NALSAR, Hyderabad addressed the participants. Besides current topics like ‘Branding for Patents’, ‘Exhaustion and Parallel Imports of Trademark Goods in the Indian Market’ and ‘Public Health and Patent Law under TRIPS’ were also deliberated upon.
6. Seminar on Contemporary Legal Issues as to Accessibility, Affordability, Sustainability and Security of Energy was also held in February 2020.

## Workshops

Besides holding conferences and conducting seminars as above, Institute of Law, through its departments and centers, also arranged for several workshops on law and non-law subjects like

1. Research Methodology covering literature search, research questions, hypothesis etc. – Two days – May 9 &10, 2019
2. Inherent Biases in Artificial Intelligence – one day – August 9, 2019
3. Conceptualizing Ethical Artificial Intelligence in India- one day- August 22,2019
4. Data Privacy Issues in AL – one day – August 22, 2019
5. Intellectual property and Artificial Intelligence – one day – August 30,2019
6. Revival of Indian Rivers – Reviving a Lost Culture- one day – October 20,2019
7. Self-defence Techniques under police Law and Administration-one day-February 2020.
8. Accounting and Taxation aspects of Mergers – three days- September 26 to 28 2019
9. Police Law on Police Law and Administration – one day – February 25,2020
10. Strategic Plan – one day – October 23,2019
11. Gender Justice – one day- November 19, 2019

## Research Talks

1. Institute of Law also arranged for the following research talk by inviting eminent speakers like Shri Keshav Kumar, Director Anti-Corruption Bureau, Shri B. N. Sri Krishna, Former Supreme Court of India, Prof Muhammad Ekramul and other eminent speakers mentioned. ‘How to prepare research Proposal’ Dr. Madhuri Parikh, Associate Professor and Head Centre for Environmental Law and Post Graduate Studies in Law, ILNU, September 21, 2019.
2. ‘Police Forensic Interface’ by Mr. Keshav Kumar (IPS), Director, Anti-Corruption Bureau, October 4, 2019.
3. ‘Mob Lynching’, by Hon’ble Justice B. N. Sri Krishna, Former Judge of Supreme Court of India, November 5, 2019.s
4. ‘Data Privacy’, by Hon’ble Justice B. N. Sri Krishna, Former Judge of Supreme Court of India, November 6, 2019.
5. ‘Comparative Study of Bangladesh and Indian Constitution, by Dr. Muhammad Ekramul Haque, Professor Department of Law University of Dhaka November 09, 2019.
6. ‘Biodiversity’, Prof M. K. Ramesh, Professor, National Law School of India University, Bengaluru, November 22, 2019.
7. ‘Regulation of Combinations under the Competition Act, 2002’ Mr. Bharat Budholia, Partner, CAM, Mumbai, November 23, 2019.
8. ‘Capacity Building Program on International Taxation’ Mr. Dhaval Trivedi, Director, International Taxation, K. C. Mehta & Co. Ahmedabad, Mr. Kinjesh Thakkar, Head of Direct Tax & Transfer Pricing, Linde Engineering India; and Dr. Anjani Singh Tomar, Associate Professor of Law, Gujarat National Law University, Gandhinagar, 7 -8, March 2020.

## Expert Lectures

1. 'Corporate Honours' Mr. Somasekhar Sundaresan, Partner, J. Sagar Associates, Advocates & Solicitors, Mumbai, April 06, 2019.
2. 'How to Design a Questionnaire' by Dr. J. A. Mann, Associate Professor, National Law University, Delhi, May 14, 2019.
3. 'Communication Skills' by Mr. Rakesh Kumar Chopra, (former Executive and Staff Trainer, Bank of Baroda) now a Freelance Trainer and a Professional Motivational Speaker, Ahmedabad August 26-29, 2019.
4. 'Role of an NGO in Policy Making' by Ms. Nupur Saxena, Centre for Social Justice, Ahmedabad, August 30, 2019.
5. 'Compromise, Arrangement & Amalgamation, section 30 & 31 Companies Act' Ahmedabad, Tejpal Sheth & Co, Ahmedabad, September 05, 2019.
6. 'Awareness on Mental Health and Wellbeing' Ms. Meenakshi Gupta, Director, BM Institute of Mental Health, Ahmedabad, September 10, 2019.
7. 'Awareness on Mental Health and Wellbeing' Dr. Madhu Singh Clinical Psychologist, Ahmedabad, September 10, 2019.
8. 'Streamlining LLM application Procedures from abroad, College Selection etc' Mr. Anuj Agarwal Co-Founder , Amicus Partners Procedures from abroad , College Selection etc., Legal Education Consultancy & Research, Mumbai, September 12, 2019.
9. 'Decision Making and Critical Thinking' Mr. Rakesh Kumar Chopra, (former Executive and Staff Trainer of Bank of Baroda) now a Freelance Trainer and a Professional Motivational Speaker, Ahmedabad September 16, 17, 18 & 19, 2019.
10. 'Debt Recovery Tribunal and its procedure' Mr. Punit B. Juneja, Advocate, Gujarat High Court, Ahmedabad, September 20, 2019.
11. 'International Commercial Arbitration' Mr. Ajay Thomas, Director and Registrar, LCIA India, New Delhi, September 20-21, 2019.
12. 'Acing Interviews' Ms. Arunava Mukherjee, Advocate on Record Supreme Court of India, New Delhi, September 21, 2019.
13. 'Bill of Lading' Adv. Captain Alex Antony, Lardner North & Co, A maritime, Law Firm, Kochi, September 23, 2019.
14. 'Working of Indian Criminal Justice System', Overview of Indian Taxation and Commercial Audit: Career Opportunities, Dr. L. Kailasam, Former Director, Office of the Principal Director and & Ex Officio Member, Audit Board, Government of India, Chennai, September 24-25, 2019.
15. 'Trademark & Industrial Design Law, Dr. Gargi Chakrabarti, Associate Professor, National Law University, Jodhpur, September 27, 2019.
16. 'Maritime Law' Captain Alex Antony, Advocate, Lardner North & Co, A Maritime Law Firm, Kochi, October 10, 2019.
17. 'International Economic Law' Mr. Sandeep Bhat, Professor of Law, West Bengal National University of Juridical Sciences, Kolkata, October 21, 2019.
18. 'Law & Justice in Globalizing World' Mr. Sandeep Bhat, Professor of Law, West Bengal National University of Juridical Sciences, Kolkata, October 22, 2019.
19. 'Jurisprudence' Mr. Abhayraj Naik, Advisor, Consultant & Researcher, Bengaluru, October 22 & 23, 2019.

20. 'Maritime law' Captain Joginder Singh Gill, Master Mariner, New Delhi, November 11, 2019.
21. 'Agrarian Reforms and law' Prof. (Dr.) Varsha Ganguly, November 11, 2019.
22. 'Refugee Law' Ms. Rejitha Nair, Free Lance Researcher, November 13, 2019.
23. 'Corporate Governance: Challenges' Prof N L Mitra, Former Vice Chancellor, NLSIU, Bangalore, Former Vice Chancellor, KIIT University, & Regulatory Control Bhubaneswar &, November 18 & 19, 2019.
24. 'Case Management of Family Courts' Justice Roshan S. Dalvi, Former Judge, High Court of Judicature, Bombay, November 19, 2019.
25. 'Legal Writing: Navigating Through Law School' Mr. Raghav Kohli, National Law University, Gandhinagar Law School, November 25, 2019.
26. 'Future of International Law' Prof (Dr.) S. G. Sreejith, Professor & Vice Dean, Jindal Global Law School, OP Jindal Global University, November 25, 2019.
27. 'Policy Impact Evaluation' Dr. Yugank Goyal, Associate Professor, Jindal Global Law School, OP Jindal Global University, November 27, 2019.
28. 'Bank Guarantee and Letters of Credit' Mr. Ashok Yagnik, Advocate, High Court of Gujarat, November 28, 2019.
29. 'Maintainability of Appeal' Justice C. K. Thakkar, Former Judge, Supreme Court of India, November 29, 2019.
30. 'The Art of Cross Examination' Mr. Mitesh Amin, Special Public Prosecutor, Gujarat High Court, November 30, 2019.
31. 'Public interest litigation and drafting and craft of advocacy' Mr. Aditya Pratap Singh, Advocate and Litigator, High Court of Bombay & Supreme Court of India December 01, 2019.
32. 'Research Methodology' Dr. M. Afzal Wani, Professor of Law and Dean, University School of Law and Legal Studies Guru Gobindsingh Indraprastha University, New Delhi, January 18, 2020.
33. 'Glanville Austin and the making of Indian Constitution' Mr. Vikram Raghavan, Lead Counsel, World Bank, USA, January 20, 2020.
34. 'Police and Security Administration' Mr. Ajay Tomar, IPS- Special Commissioner of Police, Ahmedabad city, February 10, 2020.  
'How the Legal Profession is changing'? Mr. Ramanuj Mukherjee, Founder and CEO, iPleaders Block Chain and its Role in Legal Research, February 10, 2020.
36. 'Corporate Finance' Prof. (Dr.) N. L. Mitra, Former Vice Chancellor, NLSIU, Bangalore & Former Chancellor, KIIT University, Bhubaneswar, Odisha, March 13, 2020.





Research Report  
of  
Institute of Architecture  
& Planning





**INSTITUTE OF ARCHITECTURE AND PLANNING**

**Research Statistics at a Glance**

**April 01, 2019 – March 31, 2020**

<b>Research Projects</b>		
<b>Major Research Projects</b>		
	Number of Projects	Grant in Rs.
Ongoing Major Research Projects	01	10,92,500/=
Sanctioned Major Research Projects	01	10,40,000/=
<b>Minor Research Projects</b>		
Completed Minor Research Projects	03	3,20,000/=
Sanctioned Minor Research Projects	02	1,70,000/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals	01	
Books Published	02	
Chapter in Proceedings	18	
<b>Doctoral Research</b>		
Current Ph.D. Students	05	
Current Ph. D. Guides	02	
<b>Research Awards</b>		
Research Awards Received by the Faculty Members	04	
<b>Travel Grants</b>		
Travel Grants Received by the Faculty Members	04	
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
International / National Conferences	01	
Seminars / Workshops / Training Programmes	05	
Research Talks / Lectures	13	

## Research Projects

### Major Research Projects

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Residential Building Energy Demand Reduction in India (Reside)	Prof. Utpal Sharma, Prof. Parag Mistry, Prof. Purvi Jadhav	Department of Science & Technology (DST)	10,92,500/-
<b>Total Grant</b>				<b>10,92,500/-</b>

#### Sanctioned Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Preparation of DPR for Proposed Projects in Puducherry and Kerala under Encore Programme	Prof. Utpal Sharma Prof. Aparna	National Centre for Sustainable Coastal Management (NCSCM) and Gujarat Institute of Development Research (GIDR)	10,40,000/-
<b>Total Grant</b>				<b>10,40,000/-</b>

### Minor Research Projects

#### Completed Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Impact of Industrialization, Mining, Urbanisation on Biodiversity in Select Blocks of Gujarat	Prof. Pratima Singh	Raman Development Consultants through GEC	1,05,000/-
2.	Affordable Housing: A Comparative Analysis of Protects in Ahmedabad	Prof. Pratima Singh	Institute of Town Planners, India	1,15,000/-
3.	Baseline Assessment for Identifying the Green Quotient for the Campus	Prof. Shweta Suhane, Prof. Foram Bhavsar	Nirma University	1,00,000/-
<b>Total Grant</b>				<b>3,20,000/-</b>

### **Sanctioned Minor Research Projects**

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Frame Work for Safe Evacuation of Elderly During Fire in High Rise Residential Building in India	Prof. Prachi Patel, Prof. Ankit Kumar	Nirma University	90,000/-
2.	Permeability and Social Networking With in Neighbourhoods of Ahmedabad	Prof. Digisha Mehta, Prof. Madhvi Pratyosh	Nirma University	80,000/-
<b>Total Grant</b>				<b>1,70,000/-</b>

### **Research Publication**

#### **Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals**

1. Sharma Utpal and Mistry Parag. "Revitalization Strategy for Historic Core of Ahmedabad". Innovative Approaches Towards Preserving the Environment/IEREK PRESS. 4(2) (2019).

### **Books Published**

Sr. No.	Name of the Faculty	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Vibha Gajjar, Forum Bhavsar, Parag Mistry	School Design Thinking Handbook (Compilation of institutional studio design process)	Divine publications	978-938-790-875-8	2019
2.	Krishna Kumar Yadav	The History and Techniques of Oil Painting	LUMINO US Books Publication	978-819-436-890-8	2019

### **Chapters in Proceeding**

Sr. No.	Name of the Faculty	Name of the Book Chapter	Name of the Book	Name of Publishing House	ISBN	Year of Publication
1.	Ankit Kumar	Sustainable Strategies for	International Conference of South Asian Vernacular	SPA Bhopal Press	978-819-279-813-4	2019

		Conservation of Traditional Architecture of Todas in the Nilgiris	Architecture (SAVA) Bhopal.			
2.	Digisha Mehta	Streets as a Public Place in the Urban Indian Context: A Case of Vadodara	Revisiting Sir Patrick Geddes, September 2019	White Falcon Publishing	978-938-953-012-4 (IPS Academy, Indore)	2019
3.	Vibha Gajjar	Ambiance through spatial organization in hot & dry climatic region of India - Case of Ahmedabad and Jodhpur	EAEA 14 - Envisioning Ambiances	EDP sciences, Web of conferences	978-275-989-068-2	2019
4.	Foram Bhavsar	Ambiance through spatial organization in hot & dry climatic region of India - Case of Ahmedabad and Jodhpur	EAEA 14 - Envisioning Ambiances	EDP sciences, Web of conferences	978-275-989-068-2	2019
5.	Digisha Mehta	Assessing Architecture - A Methodology for Architectural Criticism	Architecture Pedagogy, Concepts, Theories and Paradigms,	Wellworth Books International	978-819-377-493-9 (Jamia Milia Islamia)	2019
6.	Ankit Kumar	Assessing Architecture - A Methodology for	Architecture Pedagogy, Concepts, Theories and Paradigms	Wellworth Books International	978-819-377-493-9 (Jamia	2019

		Architectural Criticism			Milia Islamia)	
7.	Krishna Kumar Yadav	EX Cinema Insight Village	EX Cinema Karavelov	Lyuben Karavelov Regional Library Reference and information Department Regional Library-Ruse	978-619-740-407-4	2019
8.	Shweta Suhane	The Societal Aspects of Adaptation of Urban Forest to Climate change.	Business, Economy and Environment: The New Normal	Himalaya Publishing House Pvt. Ltd. Mumbai	978-935-299-653-7	2019
9.	Digisha Mehta	Informal Settlement as a Self-Sufficient Responsive Neighbourhood: A Case of Hollywood Basti - Gulbai Tekra, Ahmedabad	ICUSE 2020, 1 <sup>st</sup> International Conference of Urban Science and Engineering	Scholar Insight, Sheth Publishing House	978-938-906-391-2 (IIT Bombay )	2020
10.	Ankit Kumar	Rethinking Architectural Education Pedagogy : A Comparative Analysis	Rethinking Architectural Education Pedagogy : A Comparative Analysis	NIT Calicut	---	2020
11.	Digisha Mehta	Rethinking Architectural Education Pedagogy : A Comparative Analysis	Rethinking Architectural Education Pedagogy : A Comparative Analysis	NIT Calicut	----	2020
12.	Pratima Singh	Informal Settlement as a Self-Sufficient Responsive Neighbourhood: A Case	ICUSE 2020, 1 <sup>st</sup> International Conference of Urban Science and Engineering	Scholars Insights, Sheth Publishing House	978-938-906-391-2	2020

		of Hollywood Basti - Gulbai Tekra, Ahmedabad				
13.	Pratyoosh Madhavi	Streets as a Public Place in the Urban Indian Context: A Case of Vadodara	Revisiting Sir Patrick Geddes	White Falcon Publishing	978-938- 953-012- 4	2019
14.	Pratyoosh Madhavi	Assessing Architecture - A Methodolog y for Architectural Criticism	Architecture Pedagogy, Concepts, Theories and Paradigm	Wellworth Books International	978-819- 377-493- 9	2019
15.	Pratyoosh Madhavi	Informal Settlement as a Self- Sufficient Responsive Neighbourho od: A Case of Hollywood Basti - Gulbai Tekra, Ahmedabad	ICUSE 2020, 1 <sup>st</sup> International Conference of Urban Science and Engineering	Scholars Insights, Sheth Publishing House	978-938- 906-391- 2	2020
16.	Rahul Shukla	Examining the Travel Behaviour of Neighbourh oods in Relation to Carbon Footprints	ICUSE 2020, 1 <sup>st</sup> International Conference of Urban Science and Engineering	Scholas Insight, Sheth Publishing House	978-938- 906-391- 2	2020
17.	Rahul Shukla	Evaluate the Effect of ICT-based Accessibility on Travel Bahviour	Proceedings of Peer-Reviewed Abstracts, Challenges of Resilient and Sustainable infrastructure development in emerging economies	THINKER East Sinthee Road, Kolkata, West Bengal	978-935- 396-500- 6	2020

			CRSIDE			
18.	Prof. Rahul Shukla	Understanding nature of growth dynamism in areas adjoining a planning boundary	Future Cities	Jointly Published by the Indian Institute of Technology, Roorkee, and ISPER (Institute for Spatial Planning and Environment Research).	978-819-270-145-5	2020

## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Prof. Utpal Sharma	Dr. APJ Abdul Kalam Education Excellence Award	Indian Solidarity Council, New Delhi	Trophy/ Certificate
2.	Prof. Utpal Sharma	Bharat Nirman Award for Education Excellence	Promoting Achievements Foundation, New Delhi	Trophy/ Certificate
3.	Prof. Utpal Sharma	Dr. S. Radhakrishnan Shiksha Samman Puraskar	Achievers Association for Health & Educational Growth, New Delhi, 115, 1 <sup>st</sup> Flor, Vardhaman Mayur Market.	Medal/ Trophy/ Certificate
4.	Prof. Utpal Sharma	Devang Mehta National Education Award for Education Leadership	B-School Affair and Devang Mehta National Education , B-School Affairs and Devang Mehta National Education	Certificate

### Travel Grants Received by the Faculty Members

Sr. No.	Name of the Faculty Member	Purpose of the Visit	Name of the Funding Agency	Name of the Country
1.	Prof. Foram Bhavsar	International Conference	Nirma University	France

2.	Prof. Utpal Sharma	Australia	Government of Australia	Australia
3.	Prof. Vibha Gajjar	Master's degree in architecture and urbanism- Transversal seminar	National school Architecture superior from Nantes (Mauritius) & Uniciti Education Hub Pierrefonds, Mauritius	Mauritius
4.	Prof. Foram Bhavsar	Teaching module for B.Arch.- on computational architecture – Rhino and grasshopper for the project Cinemobil (A moving theatre)	National school Architecture superior from Nantes (Mauritius) & Uniciti Education Hub Pierrefonds campus Royal Road, Pierrefonds 72448.	Mauritius

### **Conferences / Seminars / Workshops / Training Programmes Organized by the Institute**

#### **“International Conference on Future Cities” (ICFC 2019) hosted by IIT Roorkee & Nirma University (IAPNU)**

Three-day conference - “International Conference on Future Cities” (ICFC 2019) was hosted by IIT Roorkee and Institute of Architecture and Planning Nirma University from 13<sup>th</sup> to 15<sup>th</sup> December, 2019. Several faculties of IAPNU collaborated as knowledge partners.

#### **Workshop on, “Planning for Sustainable and Smart Cities”**

On January 28, 2020, the IGLUS COE initiated its activities by organizing a Workshop on Planning for Sustainable and Smart Cities in India at Institute of Architecture and Planning Nirma University (IAPNU). It was widely attended by experts, professionals and academia in the fields of environment, governance, management, finance, social and informal sector, transportation, infrastructure, real estate and town planning. Experts involved included Dr Finger Matthias IGLUS, EPFL, Mr. P. K. Ghosh, Mr. Amit Gupta, Mr. K. M. Panchal, Dr. C. N. Ray



Presentation by Dr Finger Mathias

### **Workshops and training programs under “Kalp”, Annual festival of IAPNU**

Annual student festival of IAPNU - ‘Kalp 2020’: Institute of Architecture and Planning, Nirma University successfully conducted their Annual student festival Kalp from February 10 to 12, 2020. The festival started with the opening of the exhibition of student works of the previous semesters. This was then followed by various student fun events and competitions like In-house sports, Treasure hunt, Cyanotype workshop and Kavitra.

February 11, 2020 the second day included events like quiz competition, workshop on landscape and marble art. The day ended with a cultural night.

Few of the experts involved in the programme included Shri A.B.Gor, Ar. Jemini Mehta, Ar. Amarjeet Singh, Prof. Jamal Ansari, Lt. General Vishwambhar Singh.

### **Teacher training Workshop on “Urban Housing”**

IAPNU had organized a Teacher Training Programme “‘Design Charrette, Urban Housing’, from 24<sup>th</sup> June to 6<sup>th</sup> July, 2019. The experts included Prof. Yatin Pandya, Mr. Pawan Bakeri, Ar. Sohan Nilkanth and Prof. Utpal Sharma.

### **Workshop on “My security my responsibility”**

□ A session on “My security my responsibility” was held on September 6, 2019 by the IAPNU for all female faculty members and students. The session was commenced by Pradeep Seth, President of Gujarat Chapter of Fire and Safety Association of India and then further headed by Ms. Veena Gupta, founder of Seam Group Services and a member of Fire and Security Association of India.

### **Workshop on “Paper in future”**

Anne Vilsbøll, who is Danish painter and author, professor of Art History and learnt paper making at colleges of art in the USA. ‘Paper in future’ two days workshop on March 2<sup>nd</sup> and 3<sup>rd</sup>, 2020. The workshop involved learning from some of the her works and her incredible experience of 30 years with paper making, a visit to Kalamkush (Gandhi ashram paper making unit) and exploring paper in a completely new way.

## Research Talks / Lectures

It is a regular practice at the Institute of Architecture and Planning to arrange research related expert talks by eminent personalities from Industry and Academia. Following are the details of some of the talks/lectures organized by the departments under Institute of Architecture and Planning

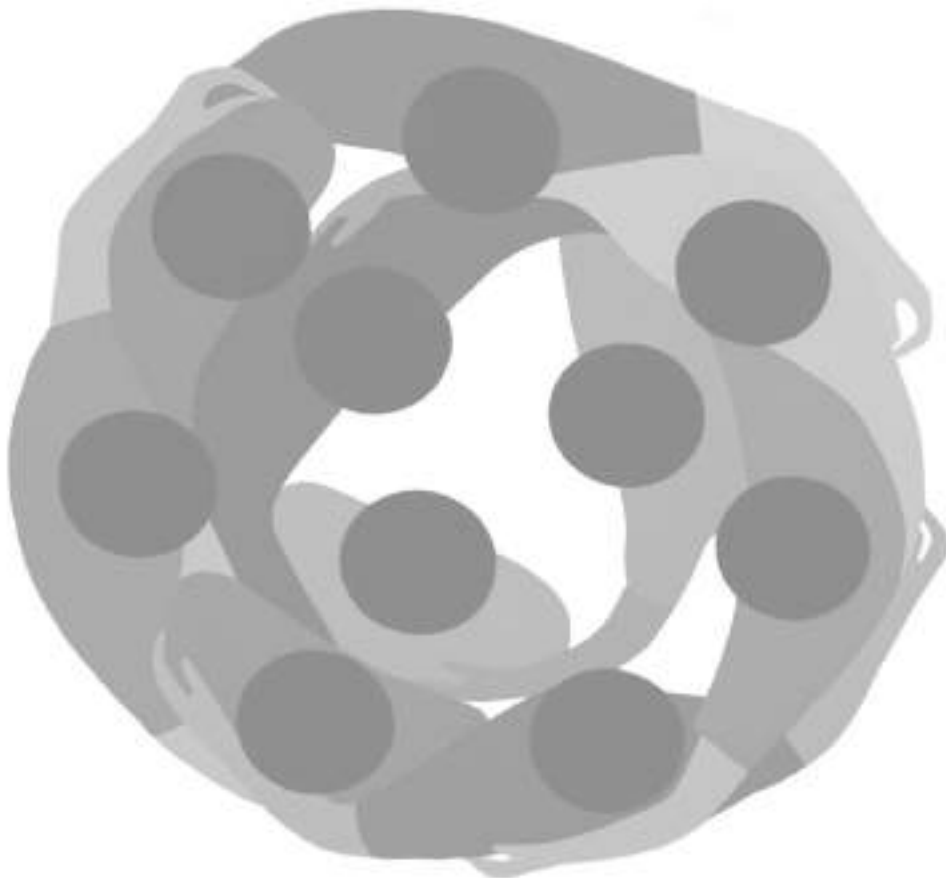
1. Dr. D. S. Meshram shared his professional experience in the field of architecture and planning as a part of orientation programme to the students on 19 August, 2019.
2. Prof. PVK Rameshwar, Professor and Head, Masters Program in Urban Design, Faculty of Architecture, CEPT University, Ahmedabad gave lecture on “Local Modernity: and the Urban Design Agenda” on 19 August, 2019.
3. Dr. Salila Vanka, Assistant professor from RV College of Architecture Bengaluru have talked about the typology of open spaces in the Indian Context, citing various examples from Bengaluru city on 19 August, 2019.
4. Dr. Vinod Gupta who has been working on environment friendly, energy efficient green architecture, talked on how can architects contribute towards sustainable design in the present condition. The lecture was organized as a part of World Habitat Day celebration on October 10, 2019.
5. Ar. Lalit Kishor Bhati has been living & working in Auroville for past 20 years & engaged in diverse planning & educational activities with students, faculty members & researchers from different institutions from within India and abroad, gave a session on “Auroville - ‘Campus as a Living Curriculum’.” The lecture organized as a part of World Habitat Day celebration on October 10, 2019.
6. Prof. Jaimini Mehta, who studied under Louis Kahn with whom he also worked gave a session on “Modernity and Modernism” on February 10, 2020 as a part of KALP 2020. At present he is the Hon. Director of Center for the Study of Urbanism and Architecture (CESURA).
7. December 21, 2019, Abhikram celebrated it’s journey in collaboration with Institute of Architecture and Planning with its vision, story and its people. Shri. B. V. Doshi was the guest of honour at the event. The Founder Ar. Parul Zaveri shared their experiences and continued the momentum around sustainability and commitment to Indian heritage. The event had couple of Panel discussion on Revival of Cultural Heritage, Conservation & Adaptive Re-Use, with patrons, Sustainable Building and Passive Cooling Systems using Traditional Knowledge & Materials, with Patrons, and Main streaming Traditional Crafts and Restoring, Livelihood, with Craftsmen/Heritage Contractors which was moderated by Ms. Mallika Sarabhai, Mr. Rajan Rawal, Ms. Rima Hooja respectively.
8. As a part of KALP 2020 on February 11, 2020 IAPNU had panel discussion on “A Future of Architectural Education”. Ar. Jayesh Hirani, Ar. Rajeev Katpalia, Ar. Riyaz Taiyabji and Prof. Anil Roy were the panelist. The discussion was moderated by Prof. Neelkanth Chhaya.
9. February 12, 2020 the last day of KALP celebration was culminated by guest lecture by Dr. Amarjeet Singh, who is chairman of RERA, Gujarat shared his valuable thoughts on “Real Estate Development in India.”

10. Prof. Jamal Ansari, former professor at School of Planning and Architecture, Delhi shared his experiences in “Master plan development of Noida and Greater Noida.”
11. Lt Gen. Vishwambhar Singh, a three-star general of the Indian army who is an architect and senior from IIT Roorkee made a stimulating presentation on “The Role of an Architect in the Indian army.”
12. Dr. Jagdish Gandhi, who is an Ecologist environmentalist, numismatist, photographer, heritage activist and researcher in ancient Indian Sciences gave a session on "The Saraswati Civilization: Architecture -Town Planning -Water Management." on February 20, 2020.
13. Prof. Karl Zankl, who is a professor at Technical University Munich, gave a lecture on “Heritage Conservation in Germany” on March 3<sup>rd</sup>, 2020.





Research Report  
of  
Institute of Commerce





# INSTITUTE OF COMMERCE

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Major Research projects</b>		
	Number of Projects	Grant in Rs.
Ongoing Major Research Projects	01	11,00,000/=
<b>Minor Research Projects</b>		
	Number of Projects	Grant in Rs.
Sanctioned Minor Research Projects	03	2,94,000/=
<b>Research Publications</b>		
Research Papers in Scopus / Web of Science / ABDC / EBSCO Listed Journals		01
<b>Research Awards</b>		
Research Awards Received by the Faculty Members		03
<b>Conferences / Seminars / Research Talks Organized by the Institute</b>		
Research Talks / Lectures		06

## Research Projects

### Major Research Projects

#### Ongoing Major Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	Research Ambience and Research Productivity: A Study of Higher Education Institutions in India, South Africa and USA	Prof. Udai Paliwal & Prof Rajesh Jain  (This project is of interdisciplinarity nature and combined with Institute of Management and Institute of Commerce, Nirma University)	Indian Council of Social Science Research (ICSSR)	11,00,000/-
<b>Total Grant</b>				<b>11,00,000/-</b>

### Minor Research Projects

#### Sanctioned Minor Research Projects

Sr. No.	Title of the Project	Project Investigator/s	Funding Agency	Grant (in Rs.)
1.	A Study on Financial Literacy Level and Investment Decisions: An Analysis of Investors in Gujarat State	Prof. Sumita Goyal	Nirma University	99,000/-
2.	Impact of Goods and Services Tax (GST) on Textile Industry of Surat	Prof. Ashutosh Pandey, Prof. Nitin Saxena	Nirma University	1,00,000/-
3.	Financial Inclusion and Women Empowerment in Rural Gujarat	Prof. Avani Shah, Prof. Karishma Butani	Nirma University	95,000/-
<b>Total Grant</b>				<b>2,94,000/-</b>

## Research Publications

## Research Papers in Scopus/Web of Science/ABDC/EBSCO Listed Journals

1. Paliwal, U. L., Saxena, N. K., & Pandey, A. Analysing the impact of GST on tax revenue in India: the tax buoyancy Approach. International Journal of Economics and Business Administration, 7(4) 2019: 514-523.

## Research Awards

### Research Awards Received by the Faculty Members

Sr. No.	Name of the Faculty Awardee	Recognition / Honor / Award	Name of the Organization / Event	Award Category
1.	Prof. Nitin Kishore Saxena	Best Paper Award at International Conference, BICON	Biyani Girls College, Jaipur, Rajasthan	2nd Prize
2.	Prof. Udai Lal Paliwal	Best Paper Award at International Conference, BICON	Biyani Girls College, Jaipur, Rajasthan	2nd Prize
3.	Prof. Udai Lal Paliwal	Education Leadership Award	Business School Affaire, Santacruz (West) Mumbai	Trophy/ Certificate

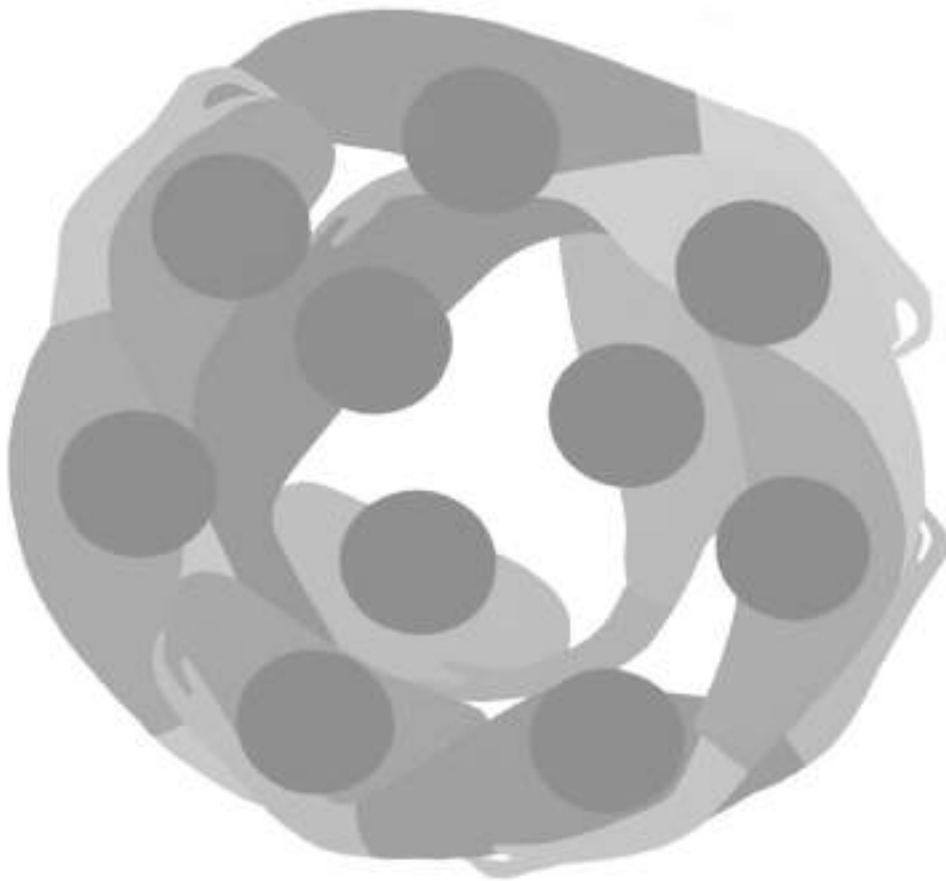
## Research Seminars / Expert Talks

1. “Opportunities and Challenges for Commerce Education”, Dr Pankaj Singh, Senior Vice President, Data Centre Business & Group HR, Adani Group, July 15, 2019.
2. “Global Career Opportunities in Management Accounting”. Mr Ajay Lalwani, Country Head, CIMA Global Mumbai, July 16, 2019.
3. “Text Mining and Textual Analysis for Predictive Models and Risk Assessments" Dr Rajendra P Srivastava, Professor Emeritus of Accounting Information Systems in the School of Business, University of Kansas, Lawrence, USA. September 17, 2019.
4. Niryat Bandhu – A seminar on export import business” Mr Anil Kumar Choudhary – Additional Directorate General of Foreign Trade, Ministry of Commerce, Ahmedabad Regional Office; January 11, 2020.
5. “Professional Ethics in Accounting”, Dr Shyam Sunder, James L Frank Professor of Accounting, Economics, and Finance at the Yale School of Management, USA & Past President, American Accounting Association, January 13, 2020.
6. “Recent Developments of Capital Markets in IFSC”, Mr V. Balasubramaniam, Founding Managing Director and Chief Executive Officer – India International Exchange IFSC Ltd (India INX). February 10, 2020.





Research Report  
of  
Department of Design





# DEPARTMENT OF DESIGN

## Research Statistics at a Glance

April 01, 2019 – March 31, 2020

<b>Research Projects</b>		
<b>Minor Research Projects</b>		
	Number of Projects	Grant in Rs.
Sanctioned Minor Research Projects	01	1,00,000/=

## Research Projects

### Minor Research Projects

#### Sanctioned Minor Research Projects

<b>Sr. No.</b>	<b>Title of the Project</b>	<b>Project Investigator/s</b>	<b>Funding Agency</b>	<b>Grant (in Rs.)</b>
1.	Design and Development of A Vision Based Multi- Degree of Freedom Feeding Robot for Operational Rehabilitation Based on Ergonomic Consideration	Prof. Priram Parikh, Prof. Jatinkumar Dave	Nirma University	1,00,000/-
<b>Total Grant</b>				<b>1,00,000/-</b>



Programmes Organized  
by  
Directorate of Research  
and Innovation





## **Programmes Organised by the Directorate of Research and Innovation**

### **INSPIRE Fellowship Review Meeting 2019**

**Sponsored by  
Department of Science and Technology (DST), Government of India**

Department of Science & Technology has organized INSPIRE Fellowship Review Meeting during July 25 – 27, 2019 under the Directorate of Research & Innovation at Nirma University. On July 25, 2019 during the Inaugural Function, Dr. P. N. Tekwani, Director, Research & Innovation, Nirma University welcomed all for INSPIRE Review Meeting 2019. “Innovation in Science Pursuit for Inspired Research” (INSPIRE) was an innovative programme sponsored and managed by Department of Science & Technology, Government of India. The focus of INSPIRE is to attract science and encourage student to pursue doctoral degree in basic and applied sciences. The purpose of this INSPIRE Fellowship Review Meeting is to review the progress work of their PhD work and guide them for future direction as well as career. Dr. Umesh Sharma, Scientist E, Department of Science & Technology briefed all about the purpose of the meeting and welcomed all experts and participants. Dr Tamanna Arora, Scientist C, Department of Science & Technology, shared information about the INSPIRE programme currently functional at DST in which there are awards, fellowships, scholarships and faculty awards starting from school to university level.



**INSPIRE Doctoral Fellows, Invited experts and the team of Directorate of Research & Innovation during DST INSPIRE REVIEW Meeting 2019**

Ninty Seven students from all over India presented their work in poster presentation for two days (July 25 – 27, 2019). Thirteen experts from different fields have evaluated their posters. The experts were from the field of Life sciences, Chemistry, Physics, Engineering Science, Mathematics, Plant Pathology, Veterinary Science and Applied Sciences. The students were from Nirma University, Ahmedabad; Central University of Gujarat, Gandhinagar; IIT, Indore; Gujarat University, Ahmedabad; BITS, Pillani etc. This review meeting provided the new insight and direction to many of the students.

**One Day Workshop on  
Science Communication Workshop (SciComm101)  
In association with  
“Wellcome DBT Trust/ India Alliance”**

One Day Workshop on Science Communication (SciComm101) was organized in association with “Wellcome DBT Trust/ India Alliance” at Nirma University on July 27, 2019. This workshop was especially designed during research studies and early career of participants. Total fifty five doctoral students for doctoral students and postdoctoral researchers working in the field of Life sciences and Pharmacy.



**Participants of the One Day Science Communication workshop (SciComm101), Experts from Wellcome DBT Trust/Indian Alliance alongwith Dr. Anup Singh, Director General, Nirma University and the team of Directorate of Research & Innovation, Nirma University**

The main objective of the workshop was to enhance the science communication and presentation skills have participated in this workshop in which twenty nine students were of

Nirma University and twenty six students were from different universities within Gujarat. Dr. Sarah Iqbal, Dr. Shingar Sharma and Dr. Divya Tiwari, three experts from DBT Alliance, came to Nirma University for conducting this one day workshop. During the day, the sessions were on Basic Science communication, Presentation Skills (Power point, Posters etc), Writing a Manuscript, Other writing skills (Grants, CV, Cover Letters and Interview), Research Ethics and the last session was on various funding opportunities available at India Alliance.

### **An Awareness Session about Funding Opportunities by the Director, Shastri Indo-Canadian Institute (SICI)**

The Directorate of Research and Innovation (DRI), Nirma University, invited Dr. Prachi Kaul, Director of Shastri Indo-Canadian Institute to deliver a talk on August 03, 2019. Nirma University has joined the Shastri Indo-Canadian Institute (SICI) community in 2018. Shastri Indo-Canadian Institute provides the creation of bi-national links between academia, government, the business community, and civil society organisations by funding research and hosting seminars. Dr. Kaul spoke about the evolution and genesis of SICI during the first half of her talk. In the later half, she discussed about various schemes and funding opportunities of SICI. She conveyed that schemes are of different levels, they are for students and faculty exchange, research collaboration, schemes for administrators' exchange, and development of academic programmes.



**Nirma University Faculty Members with Dr Prachi Kaul, Director, Shastri Indo-Canadian Institute**

Moreover, she also shared about the scope of the schemes, procedure of application, selection process and benefits in detail. All Head of the Institutions, Head of the Departments, Deans,

Institute Research Coordinators, IQAC Coordinators, and more than 85 faculty members from various constituent institutes of Nirma University were present in this presentation and interacted with Dr. Prachi Kaul and got resolved their queries. Dr. Kaul also expressed at last that she is expecting good number of proposals from NU as a response the call which is on at present.

## **One Day Seminar on Research Avenues: Opportunities and Conversion**

One Day Seminar on “Research Avenues: Opportunities and Conversion” was organized at Nirma University on February 01, 2020. This seminar was specially designed for faculty members and researchers. The main objective of the seminar was to make the participants aware of various funding opportunities and provide them a broad insight into the proposal application and review process. Total eighty-four faculty members and researchers have participated in this seminar in which sixty-two faculty members were of Nirma University and twenty-two students were from different universities and research organizations within Gujarat.



**Participants of the One Day Seminar on Research Avenues: Opportunities and Conversion alongwith Dr. Anup Singh, Director General, Nirma University and the team of Directorate of Research & Innovation, Nirma University**

Dr. Sundeep Sarin, Advisor and Scientist ‘G’, Department of Biotechnology, New Delhi was the chief guest of the function and delivered the keynote address in the seminar. Dr. Anup Singh, Director General, Nirma University delivered presidential address in the inaugural session. Dr. Ryan Pereira, Regional Officer, United States-India Educational Foundation (USIEF), Mumbai; Dr. Subhash Soni, Mission Director, Gujarat State Biotechnology Mission

(GSBTM); Dr. Shilpi Paul, Scientist E, Science and Engineering Research Board (SERB), New Delhi; Dr. Ravi A. V. Kumar, Scientist, School Co-Director, Institute of Plasma Research, Ahmedabad and Ms. Khyati Ved, Senior Manager in Higher Education & Society, West India, British Council Division, Mumbai were invited as resource persons for the seminar to deliver information about the respective funding agencies. Dr. P. N. Tekwani, Director, Directorate of Nirma University also delivered a session on other funding agencies.

### **Poster Presentation Event for Ph. D. Scholars**

Directorate of Research and Innovation (DRI) organised a one-day Poster Presentation event for Doctoral students of Nirma University on February 15, 2020. The Ph. D. scholars registered with Institute of Technology, Institute of Management, Institute of Law, Institute of Pharmacy, Institute of Science and Institute of Architecture & Planning participated in the event. The purpose of this event was to provide an opportunity for students to share their research with other students and faculty members. It also helps students to boost the confidence of the students and to think out-of-the-box to initiate interdisciplinary research.

The students gave an overwhelming response and created impressive illustrative posters of their research work. Novel research contributions and innovations by the students were artistically presented through and captured in posters.



**Dr. Anup Singh, Director General, Nirma University reviewing posters along with the faculty members**

A total of fifty students presented their posters during the event. During the event, Dr Anup Singh, Director General of the University along with Dr P N Tekwani, Director, DRI, interacted with the students and discussed their ongoing work and possible outcome. The Head of the Institutions as well as faculty members also gave their valuable inputs to the

students. Postgraduate students from different departments, other PhD students and research scholars of the Institutes (including SRF/JRF) also visited the event venue and interacted with the poster presenters and gathered information about the ongoing research. The students shared the feedback that this event allowed them to showcase their research not only to their peers but to also discuss with the faculty members of other disciplines. This event was also helpful for boosting their confidence and defending their research work.

### **An Awareness Session on ‘Essentials on Patent Drafting’ by Ms. Gopi Trivedi, Patent Attorney and a Senior Partner of Y. J. Trivedi & Co.**

The Directorate of Research and Innovation (DRI), Nirma University, invited Ms. Gopi Trivedi, a patent attorney and a senior Partner of Y. J. Trivedi & Co. to deliver a talk on ‘Essentials of Patent Drafting’ on February 29, 2020. The rationale of the talk was to increase the awareness about patent filing and its process amongst the faculty members of all the constituent institutes of Nirma University. Ms. Trivedi explained the holistic view of patent filing and the process involved. She also discussed the advantages of patents in the current era of research and innovation. In addition to that, she narrated about the current scenario of patent filing in India and abroad.



**Nirma University Faculty Members with Ms. Gopi Trivedi, Patent Attorney and a senior partner, Y. J. Trivedi & Co.**

All Heads of the Institutions, Heads of the Departments, Deans, and more than 150 faculty members from various constituent institutes of Nirma University were present in this presentation. Ms. Trivedi, interacted with the faculty members and motivated them to file more patents. The talk ended with a very interactive question-answer session.





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