

OUR VISION

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations

OUR MISSION

Nirma University emphasizes the all-round development of its students. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding in its overall progress and development.

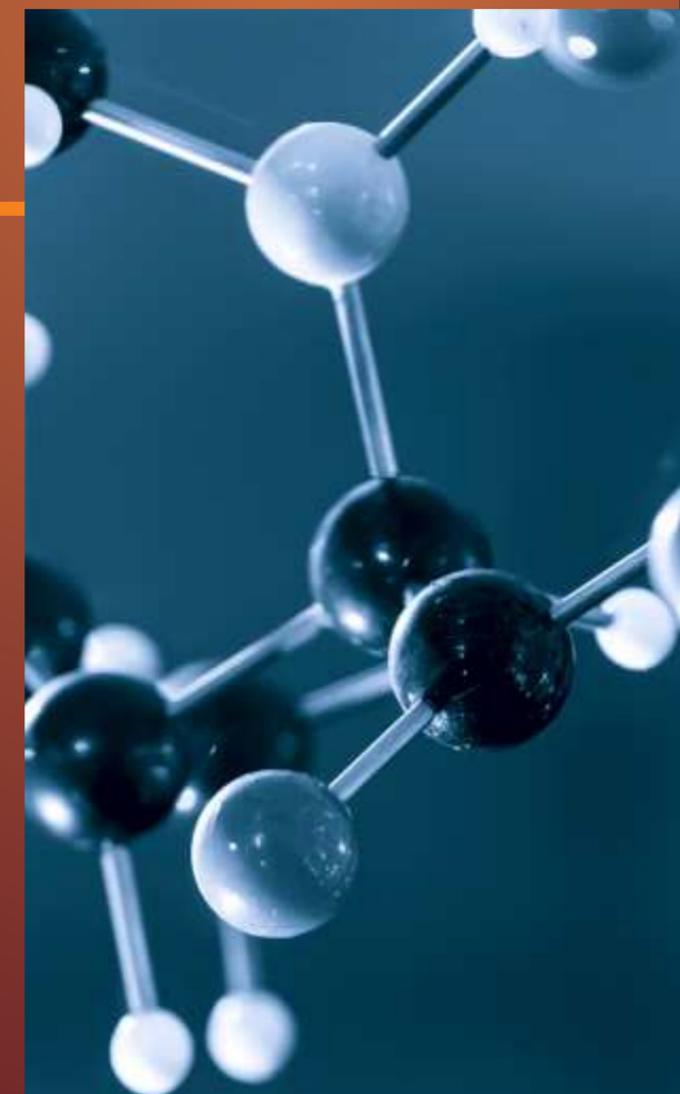
It endeavours to treat every student as an individual, to recognize their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.

QUALITY STATEMENT

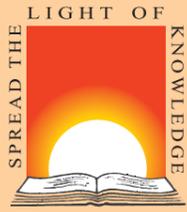
To develop high quality professionals who reflect and demonstrate values that the university stands for, through innovation and continuous improvement in facilitation of learning, research and extension activities

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Nirma Education & Research Foundation



Dr Karsanbhai K. Patel, the founder Chairman of the Nirma group, is a legendary business personality who inspires aspiring entrepreneurs all over the country.

Dr Karsanbhai Patel crystallized his long cherished dream of providing world-class facilities for professional education in the state of Gujarat through the establishment of NERF in 1994. He believed that an institute of professional courses imparting world-class education facilities to the youth, was the need of the hour for the state of Gujarat. His dream was also to inculcate the spirit of social relevance through education among the young students of the country.

NERF established Nirma Institute of Technology in 1995, Nirma Institute of Management in 1996 and Nirma Institute of Diploma Studies in 1997. These institutions made their mark by achieving very high standards and as a natural consequence of the outstanding performance in their respective areas, the Government of Gujarat in 2003 approved the proposal of NERF to grant the status of a University under a special act passed by the Gujarat State Legislative Assembly. The University Grants Commission (UGC) recognized it under the section 2 (f) of the UGC Act. The University has been accredited by National Assessment and Accreditation Council (NAAC) with 'A' grade.

Subsequently the University established four more institutes, the Institute of Pharmacy in 2003, the Institute of Science in 2004, the Institute of Law in 2007 and Institute of Architecture in 2014. All the Institutes under Nirma University are providing value based quality professional education and are widely respected for their contribution to the society.

The University has also recently received SIRO (Scientific and Industrial Research Organization) recognition from DSIR, Department of Science and Technology, Government of India.



Board of Trustees

Dr. Karsanbhai K. Patel

(Chairman)

President, Nirma University

Shri Ambubhai M. Patel

(Managing Trustee)

Vice President, Nirma University

Shri R. D. Shah

Chartered Accountant

Shri Hirenbhai K. Patel

Managing Director, Nirma Ltd

Shri Rakeshbhai K. Patel

Vice Chairman, Nirma Ltd.

Shri K. K. Patel

Joint Managing Trustee,

Vice-President,

Nirma Education & Research Foundation



Nirma University has been established in the year 2003 as a statutory university under Gujarat State Act by the initiative of the Nirma Education and Research Foundation (NERF). The University is also recognized by the University Grants Commission (UGC) under section 2(f) of the UGC Act. The university has been accredited by NAAC with grade "A". The University is a member of the Association of Common Wealth Universities (ACU) and the Association of Indian Universities (AIU). Dr. Karsanbhai K. Patel, Chairman, Nirma Group of Companies and Chairman, NERF is the President of the University. Dr. Anup K. Singh is the Director General of the University.

Nirma University is approximately 15 kms. from Ahmedabad City and adjacent to the state capital Gandhinagar. A 110 acres sprawling campus in picturesque surroundings provides a refreshing environment and stimulates intellectual creations and innovations. Nirma University is the first private university in the state of Gujarat and one of India's leading universities.

Nirma University consists of Faculty of Doctoral Studies and Research, Faculty of Technology and Engineering, Faculty of Management, Faculty of Pharmacy, Faculty of Science, Faculty of Law and Faculty of Architecture. The undergraduate, post graduate and doctoral programmes offered by these faculties are rated highly by accreditation agencies, industries, business magazines and moreover by the students. Innovation, excellence, and quality are the driving forces on the campus and this has translated the vision of the University into a reality over a short period of time.

The University is acclaimed for its holistic education that strives to develop not only academic competence but also human character. Today it is identified with cutting edge research, robust academic programmes, quality teaching-learning process and over-all personality development interventions of its students. The state-of-the-art campus provides refreshing environment, stimulates intellectual growth and creativity. Today the campus vibrates with world class curricular activities and with myriad co-curricular and extra-curricular activities like international conventions, symposiums, conferences, student competitions, conclaves, short-term industry relevant programmes, cultural activities and sports.

Chairman

Dr Karsanbhai K. Patel
Chairman, Nirma Limited,
Chairman, Nirma Education and Research Foundation,
President, Nirma University

Shri Ambubhai M. Patel

Managing Trustee, Nirma Education and Research Foundation

Shri Rakeshbhai Patel

Vice Chairman, Nirma Limited

Shri Hirenbbhai K. Patel

Managing Director, Nirma Limited

Shri J. P. Joshipara

Academician

Dr P. N. Bhagwati

Industrialist & Educationist,
Chairman, Bhagwati Sphero Cast Limited

Dr Pankajbhai Patel

Chairman & Managing Director
Zydus Cadila Health Care, Ahmedabad

Prof.(Dr) Somayajulu Garimella

Dean, Faculty of Management, Nirma University

G. Ramachandran Nair

Executive Registrar (Secretary)

Dr Anup K. Singh

Director General, Nirma University

Shri Pankaj Joshi

IAS, Principal Secretary, Higher and Technical Education,
Education Department, Government of Gujarat,
Gandhinagar

Shri R. D. Shah

Chartered Accountant, Trustee
Nirma Education and Research Foundation

Prof. N. R. Madhava Menon

IBA-CLE Chair in Continuing Legal Education
NLSIU, Bangalore

Shri Kamalbhai Trivedi

Advocate General
Gujarat High Court, Ahmedabad

Shri Vipinbhai S. Parikh

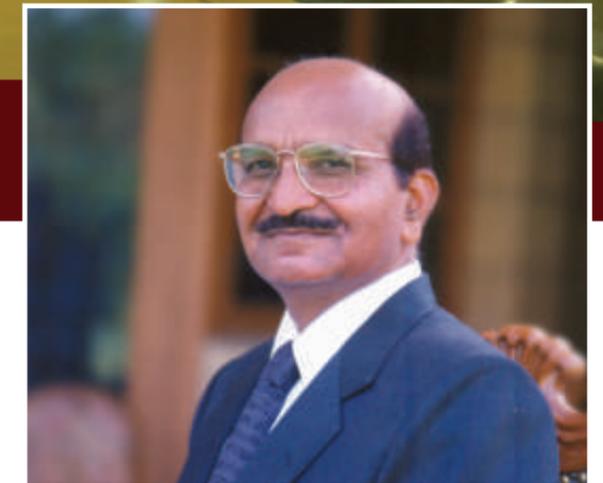
Advocate

Prof. Utpal Sharma

Dean, Faculty of Architecture, Nirma University



President



Dr. Karsanbhai K. Patel
Chairman, NERF
President, Nirma University

Like the other constituent institutes of Nirma University, the Institute of Science draws much of its inspiration and strength from its founder, Dr. Karsanbhai K. Patel, Chairman, Nirma Limited. Dr. Patel is renowned for his contribution to industrial development in the country. In the last one decade, he has turned his attention to the growing challenges in the education. Among many social projects that he has initiated, Nirma Education and Research Foundation (NERF) is monumental of his commitment to society.

Dr. Patel has been conferred with "Padamshri Award for the year 2010". He is also recipient of the "Udyog Ratna Award – 1990", "Gujarat Businessman Award -1998", "Ernst & Young Lifetime Achievement Award – 2006," "Sardar Vallabhbhai Patel Vishwa Pratibha Award-2009", "The Baroda Sun Lifetime Achievement Award 2009" and "Chemtech Award of Hall of Fame". Dr. Patel is awarded Honorary Doctorate of Humane Letters by Florida Atlantic University, USA for Business and Marketing acumen and philanthropy. He was also awarded Honorary D. Lit by Devi Ahilya Vishwavidyalaya, Indore.

Dr. Patel firmly believes that to withstand global competition and to satisfy the growing need of quality professionals, an academic institution must constantly grow, innovate, build strength and strive to become self-reliant.

Director General

Dr. Anup Singh
Director General
Nirma University



Dear Prospective Student,

India is known for its research acumen from the time immemorial. However, it is fast transforming as a vibrant knowledge economy. The country is successful in providing one of the best health care facilities and is one of the leading countries in the field of science and technology. The backbone of this achievement is scientific knowledge base, including basic biology, which is necessary to produce eminent scientists and academicians in the future.

At Nirma University, we provide high quality education in biological sciences in diverse branches of Biotechnology, Biochemistry and Microbiology. Along with the requisite knowledge in the subjects, we focus on the overall development of the students so that they are ready to take up the challenges that they will be facing in the future. We facilitate the personality development of students and help them realise their potential.

Nirma University is duly accredited by the National Assessment and Accreditation Council (NAAC). It provides outcome based education, focused at employability, empowerment and entrepreneurship. The Institute of Science is at the cutting edge of research and innovation. It receives research grants from various state and central government funding agencies and its faculty members are active researchers.

The Institute, besides basic training in the life sciences, aims to nurture in you the employability skills like conception of innovative ideas, creative writing, presentation, communication, and overall execution which will help you take up novel research work in the future. Besides providing high quality training, the Institute of Science hosts a series of events like seminars, conferences and workshops to invite senior scientists, researchers, academicians and corporate professionals who present their work in their respective fields. These give students a good exposure to recent developments in modern biological research and ample scope to interact with them and discuss their ideas. The Institute has a placement cell that provides the students an opportunity to be placed in biotechnology and pharmaceutical companies.

The Campus life is quite happening and colourful. The students are actively involved in a variety of co-curricular and extra-curricular activities, such as institute level and university level cultural festivals, sports activities, club activities and extension activities, which will remain with you as sweet memories throughout your lives. The Student Activity Centre is a unique centre, where students not only meet but also discuss serious academic and social matters. The natural ambiance, fascinating culture and sentient atmosphere of the campus is always thought provoking.

I assure you that you will receive high-grade quality learning and growth experience at the Institute of Science, Nirma University.

Anup Kumar Singh, PhD



Internal Quality Assurance Cell (IQAC)



Chairman	<ul style="list-style-type: none">• Prof. Sarat Dalai (Ex. Officio) Head of the Institution
Coordinator	<ul style="list-style-type: none">• Dr. Sriram Seshadri Assistant Professor
Representative of the University	<ul style="list-style-type: none">• Shri G. R. Nair Exe. Registrar (Ex-Officio)
Administrative Officers	<ul style="list-style-type: none">• Shri. Lalit Vyas Administrative Officer• Mr. Dinesh Patel Office Superintendent, ISNU• Dr. Lalitha Polluru I/c Librarian, ISNU
Faculty Members	<ul style="list-style-type: none">• Dr. Sonal Bakshi• Dr. Vijay Kothari• Dr. Rajeev Tyagi• Dr. Heena Dave
Alumni Member	<ul style="list-style-type: none">• Ms. Dhriti Shah Research Scholar FRIGE House, Ahmedabad• Ms. Deepika Mandhaliya Research Scholar, ISNU
External Member	<ul style="list-style-type: none">• Mr. Yash S Patel, Research Associate Proacqua Pvt Ltd., Anand• Ms. Devina Bhardwaj, CEO Intervein Laboratories Pvt. Ltd. Ahmedabad
Student Members	<ul style="list-style-type: none">• Ms. Fulesh Kanwar Research Scholar, ISNU• Ms. Suhani Palkiwala Research Scholar, ISNU
Placement Representative	<ul style="list-style-type: none">• Mr. Tushar Patel Placement Officer, ISNU



Scientific Advisory Committee (SAC)

Prof. L. S. Shashidhara

Co-ordinatory, Biology
Indian Institute of Science Education
and Research (IISER), Pune

Prof. Rakesh Bhatnagar

School of Biotechnology
Jawaharlal Nehru University, New Delhi

Prof. Bhushan Patwardhan

Interdisciplinary School of Health
Sciences
University of Pune, Pune

Prof. M. K. Bhan

Former Secretary
Department of Biotchnology, New Delhi

Dr. Himanshu Gadgil

Vice President (R & D)
Intas Biopharmaceuticals, Ahmedabad

Dr. Bhaswat Chakraborty

Sr. Vice President
Cadila Pharma, Ahmedabad

Dr. Narottam Sahoo

Advisor and Member Secretary
Gujarat Council On Science and
Technology (GUJCOST), Gandhinagar

From the Director's Desk

Biology has scaled great heights and has become multidisciplinary in nature. The success of human genome sequencing with the emergence of systems biology has revolutionized the field of Biology and led to the rapid progress in understanding the biological phenomena at molecular level. Personalized medicine is soon going to be part of our life style in managing human health. The technologies developed during the last two decades not only help us give new dimension to scientific innovations, but also reduce the cost of molecular diagnosis for many diseases.



The Institute of Science at Nirma University introduces the advancements in Modern Biology to the young students and motivates them to take up the challenge to make significant contributions to the knowledge and to develop novel technologies required for addressing the imposing problems of good health, food demand, and clean environment. Degree programmes of Master of Science in Biochemistry, Biotechnology and Microbiology are designed to provide students with a good understanding of the concepts, ability to identify, analyze and address scientific problems. Our multidisciplinary approach of teaching is innovative and emphasizes hands on learning of the basic principles and techniques that are critical to understand biological phenomena. The syllabi of M. Sc. programmes have been developed to cater to the needs of academic research and industry.

The students are guided by structured lectures, relevant practicals in laboratories, self-directed and computer-assisted learning, review of literature, oral presentations and expert lectures. The expectation of the course and subject teams is that students will work diligently and effectively towards acquiring the required standard of knowledge, comprehension and technical skills that will make them productive and thus help them achieve their goals. At the post graduate level, research training plays an important role. Therefore, greater emphasis has been given to dissertation projects that lasts over the period of two semesters. Active involvement of research scholars in dissertation projects and continuous efforts of the faculty members, who are seasoned researchers, in improving the quality and scope of research, provide stimulating and vibrant environment for learning. Financial assistance from Dept. of Biotech, Dept. of Science and Tech., of Govt. of India and GSBTM and GUJCOST (DST) and Govt. of Gujarat in addition to NERF (Nirma Education and Research Foundation), in form of research grants to the faculty members to address challenging biological problems, has helped us to modernize our laboratories and improve our infrastructure with high-end instruments. This has, in turn, catapulted our efforts to impart quality training to our students with hands-on experience on these instruments. M. Sc. students graduated from our institute are trained well, and expected to have the knowledge and skills needed to assume roles in various areas of Biology as academic educators, scientists in both academia and industry, members of decision making bodies, business and management teams in Government and Industries, Bio-entrepreneurs, public and private organizations that deal with social, ethical and legal issues in Biotechnology.

I thank you for choosing our academic programmes and wish you all the success in all your endeavours and for your future career.

Prof. Sarat K. Dalai

Director(I/c) & Dean, Faculty of Science



About the Institute

Established in 2004, the Institute of Science has grown in leaps and bounds in the last nine years. The Institute aims to provide students with a broad training and education in Biochemistry, Biotechnology and Microbiology encompassing science, business, legal, social and ethical aspects to enable them to explore wide career opportunities.

The Institute of Science is founded to cater to the need to provide an alternative to the students who desire a post graduate degree and whose career objectives go beyond academic research. The Institute offers post graduate course in Biotechnology, Biochemistry and Microbiology and doctoral programme in science.

The Institute has professionally qualified and experienced permanent faculty drawn from various areas of Life Sciences. A balanced mix of academicians and professionals, with rich academic and research experience contributes to the Institute's academic excellence. The quality and progress of the Institute is coordinated and ensured by Institute of Science Advisory Committee (ISAC) and Internal Quality Assurance Cell (IQAC) of the Institute.

The Alumni of the Institute are well placed in companies like Reliance Life Science, TCS Life Sciences, Ranbaxy Ltd, Quintais, India, Lupin Pharmaceuticals, Pune, Intas Biopharmaceuticals, Sun Pharma, Torrent Research, Zydus Cadila etc. and in research Institutions pursuing their Ph. D. like NIPER, Chandigarh; JNCASR, Bangalore; TIFR, Bangalore; CCMB, Hyderabad; IISER, Bhopal; Institute of Science, Hyderabad; Texas A and M University, USA; Griffith University, Australia; Laval University, Quebec, Canada, etc. The Institute also has an Alumni Association which meets on Annual Basis.





Infrastructure

The Campus

The constituent institutes of the University have independent state of art infrastructure spread across 110 acres that is comparable to the top international institutions. The buildings have lecture theatres and class rooms equipped with multi-media and audio-visual aids, spacious seminar halls and auditoriums with varied capacities and hi-tech laboratories with latest equipments. The entire campus is Wi-Fi enabled. The campus provides an ambience that motivates the students to learn and grow.

Classrooms & Laboratories

The Institute of Science has spacious classrooms, well-equipped with modern furniture and audio-visual equipment to facilitate effective learning. The classrooms are designed to promote maximum interaction between the faculty and the students. The Institute also houses dedicated research laboratories for fifty research scholars, a central instrumentation facility, plant growth area, animal cell culture facility, insectarium and animal house. There is also a user friendly institutional library with computers and internet facilities.

Computing Facility

The central computer facilities consist of 27 servers and more than 1200 systems, which are interconnected by fibre optic cables and 12 mbps, dedicated optic fibre leased line and Wi-Fi hotspots which enable round the clock internet connectivity. The Institute has 10 systems in the library with Internet and Intranet facilities for the students.



Library Resource Centre

The Institute of Science is highly focused on academic, research and development activities. In view of the focused objectives, the library plays a vital role in the collection, development and dissemination of scientific and technical information to meet the present and future academic and research needs of varied users.

The library at Institute of Science houses more than 2162 volumes of books meticulously chosen for reading and reference in addition to 97 CDs, 384 Bound Volumes, 214 M.Sc. Dissertations and 21 PhD Theses. The Institute library has subscription of 54 journals comprising print journals (2) and online journals (52) including Annual Reviews (37), Science Direct (8), Portland Press (6), Nature Weekly from Nature Publishing Group (1).

The Library and Resource Centre is fully automated with user-friendly library software Alice for Windows (AfW) that facilitates automated circulation of the books and location and availability information of the books stocked in the library. Online Public Access Catalogue (OPAC) is also available on the

internet for inquiring the status of the resources. Bar-coding system is in use to computerize the bibliographic details of the resources.

The Library Resource Centre offers the following services:

- Reference
- Circulation
- Computerized Information Search
- Current Awareness Services
 - New Arrival List of Books
 - New Arrival List of Periodicals
 - Content and Summary of selective newly arrived books
 - Newspaper Clippings
 - Web content Alerts through RSS feeds of Subscribed

- Journals on Website
 - Selective Dissemination of Information (SDI)
 - Reprography
 - Inter-Library Loan (ILL)
 - User Education Programmes
 - Information Literacy
 - Library Orientation
- For detailed information please visit <http://library> (Intranet)

Hostels

The University has separate hostel for boys and girls. Both the hostels are located on the campus. The hostel rooms are spacious and well-furnished. The hostels have sports and other recreational facilities, such as cable TV, common room for interaction, etc. All the hostel rooms have intranet and internet connectivity round the clock. Only vegetarian food is served in the mess.

Canteen

Canteens are located within the university campus and within close proximity of the Institute, which provides hygienic and wholesome food, snacks and beverages, etc.

Other Facilities

A branch of the Kalupur Commercial Co-operative Bank Ltd., a scheduled bank with ATM facility is located on the campus. There is a non-resident doctor who visits the campus regularly on week days. The Institute has a volleyball court, a lawn tennis court, a basketball court, a football and cricket ground, a table-tennis room and a well-equipped modern gymnasium. The Institute provides transport for the students and the staff for all the areas of city.



Academic Programmes

- **Masters Programmes**
- **Doctor of Philosophy (Ph.D.)**

Masters degree

The Institute offers Master's Degree Programme in the following disciplines:

- Biochemistry**
- Biotechnology**
- Microbiology**

The aim of the programmes is to mould future biochemists, biotechnologists and microbiologists, who could contribute to the field of biological sciences through their innovative, scientific and leadership skills.





Curriculum

First Year

M. SC. BIOCHEMISTRY	
Semester I	
<ul style="list-style-type: none"> • Metabolism • Human Physiology • Cell Biology • Molecular Biology • Basic Immunology • Laboratory I • Seminar I • Basics of Biological Sciences • Cyber Security 	
Semester II	
<ul style="list-style-type: none"> • Neurobiochemistry • Bioanalytical Techniques • Genetic Engineering • Advanced Immunology • Elective I • Introduction to Professional Ethics, Rights & Duties • Laboratory II • Seminar II • Professional English • Social Extension Activities 	

M. SC. BIOTECHNOLOGY	
Semester I	
<ul style="list-style-type: none"> • Metabolism • Cell Biology • Molecular Biology • General & Applied Microbiology • Basic Immunology • Laboratory I • Seminar I • Basics of Biological Sciences • Cyber Security 	
Semester II	
<ul style="list-style-type: none"> • Industrial Microbiology & Fermentation Technology • Bioanalytical Techniques • Genetic Engineering • Microbial Genetics • Elective I • Introduction to Professional Ethics, Rights & Duties • Laboratory II • Seminar II • Professional English • Social Extension Activities 	

M. SC. MICROBIOLOGY	
Semester I	
<ul style="list-style-type: none"> • Metabolism • Cell Biology • Molecular Biology • General & Applied Microbiology • Basic Immunology • Laboratory I • Seminar I • Basics of Biological Sciences • Cyber Security 	
Semester II	
<ul style="list-style-type: none"> • Industrial Microbiology & Fermentation Technology • Bioanalytical Techniques • Genetic Engineering • Microbial Genetics • Elective I • Introduction to Professional Ethics, Rights & Duties • Laboratory II • Seminar II • Professional English • Social Extension Activities 	

Second Year

Semester III	
<ul style="list-style-type: none"> • Biochemical Toxicology • Cancer Biology • Endocrinology • Animal Biotechnology • Elective II • Dissertation Tutorials • Laboratory III • Research Methods 	
Semester IV	
<ul style="list-style-type: none"> • Dissertation • Comprehensive Viva Voce • CV Writing & Interview Preparation 	

Semester III	
<ul style="list-style-type: none"> • Molecular Microbial Physiology • Agriculture & Environmental Microbiology • Animal Biotechnology • Vaccinology • Elective II • Dissertation Tutorial • Laboratory III • Research Methods 	
Semester IV	
<ul style="list-style-type: none"> • Dissertation • Comprehensive Viva Voce • CV Writing & Interview Preparation 	

Semester III	
<ul style="list-style-type: none"> • Molecular Microbial Physiology • Medical Microbiology & Virology • Agriculture & Environmental Microbiology • Microbial Diversity & Systematics • Elective II • Dissertation Tutorials • Laboratory III • Research Methods 	
Semester IV	
<ul style="list-style-type: none"> • Dissertation • Comprehensive Viva Voce • CV Writing & Interview Preparation 	



Pedagogy

The Institute makes use of an appropriate mix of pedagogical tools to train the students to handle professional responsibilities. These include lectures by an appropriate mix of in-house and visiting faculty, expert lectures, discussions, seminars, project assignments and visit to industries. Continuous evaluation and counselling are important parts of the academic programme.

The approach to Learning:

Rigorous coaching and continuous evaluation through:

- Outcome Based Education through Outcome Based- Teaching and Learning, Curriculum and Assessment
- Credit based Semester System with weightage of different components of study
- Learning through Classroom Teaching, Practical Work, Industry Visits, Project Work and Dissertation Work
- Academic Rigor and Innovative Pedagogical Tools
- Faculty Guidance and Advisory System with faculty as counsellors to students
- Continuous Enhancement of Communication Skills
- Continuous up-gradation of state-of-the-art knowledge and skills
- Active participation of students in creative co-curricular activities

Course & Assessment

Nirma University has provided for a credit based semester system. It is devised to motivate students for systematic and continuous study. Term assignments, laboratory and project work are given great importance and are continuously assessed. In addition to continuous evaluation, Semester End Examinations are conducted for theory subjects.

The Institute has also initiated a number of measures to bring the curriculum and assessment system of these programmes in conformity with international norms. Provision is also made for remedial teaching wherever necessary. During summer, supplementary learning activities and / or practical training are planned and students have to compulsorily take up summer internship. Dissertation projects are also undertaken over the last two semesters when students undergo rigorous research training under the guidance of the faculty members and are exposed to modern high-end instruments.





Orientation For Freshers

The Institute organizes a unique orientation programme of one to two weeks for the new entrants. Various lectures on time management, coping with stress, human relations, positive attitude, communication skills etc, are delivered by eminent speakers to the students. This programme enables the students and faculty to interact with each other, understand each other and it also provides smooth transition from undergraduate life to a new environment of post graduate studies.



Ragging - Zero Tolerance

Ragging – Zero Tolerance

Ragging is strictly prohibited inside and outside the University campus. The Anti-Raging Committee constituted for this purpose by the Institute is empowered to take immediate action against any untoward action and also to counsel the fresher. Students seeking admission shall have to furnish an undertaking in this regard. To enhance familiarity and to acclimatize the fresher to the academic and social environment of the campus, the Institute organizes an orientation session in the first week of the new academic calendar.

Ragging: Definition

Any disorderly conduct whether by words spoken or written or by an act which has the effect of teasing, or handling with rudeness any other student, in rowdy or undisciplined activities, which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or a junior student or asking the students to do any act or perform something which such student will not do in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student.

The student will also be required to give an undertaking in the specified performa provided with the students' handbook as an enclosure. It is to be filled up and signed by the candidate and his parent/guardian to the effect that he/she is aware of the University's approach towards ragging and the punishment to which he/she shall be liable, if found guilty of ragging.

All the students admitted under the institute will have to observe and abide by the discipline rules prescribed by the University / Institute and he / she will submit to the disciplinary jurisdiction of the Head of the Institution / Director General (NU) and other competent officers or authorities or bodies of the University as the case may be and in this respect he / she has to submit the declaration in the Performa at the time of admission.





Admission Procedure

Intake

The intake capacity for Masters in Biochemistry, Biotechnology and Microbiology is 25, 40 and 25 respectively.

Eligibility and Admission Criteria

A student seeking admission to any of the above mentioned Programme must fulfil the following criteria:

The candidate should have Bachelor's degree under 10+2+3/4/5 pattern of education in Chemistry, Biochemistry, Botany, Zoology, Microbiology, Life Sciences, Environmental Sciences, Bio-technology, Agricultural, Veterinary, Fishery & Dairy Sciences, Pharmacy, Medicine (MBBS), BDS, Bioinformatics, Genetics, Medical Laboratory Technology Sciences, BHMS, BAMS, B. Tech./B.E. Biotechnology, Physiotherapy or Bio-medical Engineering with at least 50% marks as aggregate of all the semester / years.

Candidates who have appeared for the final semester of qualifying examination can also apply. In such case, the candidates are required to submit the results as soon as they are available either by fax or by email (scanned image).

If the applicant has passed the qualifying examination from a University other than Nirma University, he/she will be required to obtain an Eligibility Certificate from Nirma University. The arrangement for obtaining the same will be made on the spot on payment of Rs.500/- at the time of admission.

Application

The Application Form and Prospectus can be downloaded from our website www.nirmauni.ac.in/ISNU. The duly filled form is to be sent along with a demand draft of Rs. 1000/- (non-refundable) in favour of "INSTITUTE OF SCIENCE, NIRMA UNIVERSITY" payable at Ahmedabad. The applicant should write his/her complete name on the backside of the Demand Draft.

Selection Procedure

Admission will be granted purely based on merits obtained in the Entrance Test conducted by Nirma University. The test will be based on the undergraduate syllabus of Chemistry and Life Sciences. There will be 100 objective type questions of 100 marks. The duration of the test is one and a half hour. There will be no negative marking.

In case of equal score in the entrance test, the aggregate marks of the qualifying examination will be considered for determining the merit. In case of "Result Awaited" category, aggregate marks of all the previous years / semesters will be taken into consideration for determining the rank.

Fee Structure

The Tuition Fees for:

M. Sc. Biochemistry	-	Rs. 1,00,000/- per annum
M. Sc. Microbiology	-	Rs. 1,00,000/- per annum
M. Sc. Biotechnology	-	Rs. 1,00,000/- per annum

Other Charges/Deposits Applicable for all programmes

Registration PG	-	Rs. 500/- (One time)
Caution Money Deposit	-	Rs. 2500/- (Refundable)
Library Deposit	-	Rs. 5000/- (Refundable)
University Examination Fees	-	Rs. 8000/- per annum
(Semester End Exam, Mid Semester Exam, Semester Grade Report)		

Hostel (Optional)

Hostel Fees	-	Rs. 50,000/- per academic year
Hostel Electricity Advance	-	Rs. 5000/- per academic year
Laundry charges	-	Rs. 3500/- per annum
Mess charges	-	Rs. 30,350/- for 10 months



Cancellation of Admission and Fees Refund:

The following guidelines are followed in cases of cancellation of admission and refund of fees paid:

1. If a student of first year cancels the admission within one month and waiting list exists on the date of cancellation, then fees will be refunded after deducting Rs. 1000/-.
2. Fees paid for the first semester or first year including the case of NRI or PIO (see below) will not be refunded if the seat cannot be filled in the absence of any waiting list or the admission cannot be given because of the statutory provision.

International Students

a) CHILDREN OF INDIAN WORKERS IN GULF COUNTRIES AND SOUTH EAST ASIA (CIWGC-SEA)

The candidates whose parents are working at Gulf countries or South East Asia are only eligible under this category.

b) PERSONS OF INDIAN ORIGIN (PIO)

The persons who are citizens of other countries (except Pakistan and Bangladesh) who at any time held an Indian Passport, or who or either of his parents or any of his grand parents was a citizen of India by virtue of the provisions of the Constitution of India or Sec 2 (b) of Citizenship Act, 1955 (Act No. 57 of 1955) are only eligible under this category.

c) FOREIGN NATIONALS (FN)

The citizens of all countries other than India, who are not of Indian origin as defined under PIO are eligible under this category.

15% supernumerary seats are available for admission to PIO (Persons of Indian Origin) & Foreign students. Out of this about one-third i.e. 5% is reserved for Children of Indian Workers in Gulf Countries and South East Asia (CIWGCSEA).

A candidate seeking admission to these seats should also meet the eligibility criteria. All admissions will be on merit basis.

The fee for PIO & Foreign students is US\$ 7500 or equivalent Indian Rupees per year. The fee for Children of Indian Workers in Gulf countries and South East Asia (CIWGCSEA) and South Asian Association for Regional Co-operation (SAARC) is US\$ 5500 or equivalent Indian Rupees per year.

A one-time processing fee of Rs. 25000/- (non-refundable) is to be paid by PIO / Foreign students, Children of Indian workers in Gulf Countries and South East Asia (CIWGCSEA) and South Asian Association for Regional Co-operation (SAARC).

For further details, please contact the Assistant Registrar (Academic), Nirma University through email : asst-registrar@nirmauni.ac.in.



Doctor of Philosophy (Ph.D.)



In its quest to promote excellence in the field of Science, the Institute offers full time and external Doctoral programme in Science with an emphasis to unravel the problems related to health, agriculture and environment and to train highly skilled manpower for research and teaching. The programme is offered in the field of Biochemistry, Biotechnology and Microbiology. The current thrust areas for full time Ph. D. programme are Immunological Memory, Mucosal Immunology, Animal Toxicological Studies, Anticancer Therapeutics, Biodegradation, Bioremediation, Microbial Diversity, Mitochondrial Functional Polymorphism in Sperm, Multi-Drug Reversal Studies, Plant Growth Promoting Rhizobacteria (PGPR), Catabolic repression of MPS Phenotype, Plant Secondary Metabolites, Probiotics and Urinogenital infections and Microbicides.

Eligibility and Admission Criteria:

The candidates holding Masters Degree or equivalent with 55% or equivalent grade from a recognized university will be considered eligible for registration for the Degree of Doctor of Philosophy in the relevant programme.

If the applicant has passed the qualifying examination from a University other than Nirma University, he/she will be required to obtain a provisional eligibility certificate from Nirma University on payment of Rs. 500/- and the students who are granted admission will have to submit the original of migration certificate within six months from the date of admission.

Admission Procedure:

The University will invite applications from the candidates through advertisement in the press or on the website. The Candidates, who intend to register for Ph.D., have to apply in the prescribed performa. An entrance test will be conducted for the eligible candidates which will be followed by a presentation by the candidates and a personal interview by a committee. The component weightage of the selection will be as under, while making the selection:

- Weightage for Entrance Test : 35%
- Weightage for Personal Interview: 65%

Sub component weightage in Personal Interview shall be as under:

- Literature Survey: 35%
- Innovation in Research: 20%
- Discussion: 10%

The candidate who does not meet with 50% of total assessment score will not be considered for admission. The candidate who obtains 50% and above will be considered on merit based on number of vacancies available.

However the candidates who have passed the National Level Test like UGC/CSIR(JRF) examination / NET / SLET / GATE/teacher fellowship holder, M.Phil etc or its equivalent shall be exempted from appearing in the test and they will be considered deemed to have earned 35% score in the written test.

Coursework:

The programme includes course-work of 13 credits i.e. 2 courses of Post-graduate level and a course of 3 credits on Research Methodology and a seminar course. Full- Time and External students will have to complete their course work within one year and one and half year from the date of registration respectively.

The regulations for Ph.D programme under which the admitted students will be governed are available on the website under section "Academic Regulations for Ph. D (Full-Time & External) students"





Research in the Institute

The Institute is actively involved in research work since the start of its research programme in 2007. In addition to 24 full-time PhD students presently working at the Institute, final semester M.Sc. students also contribute to research during their dissertation project work. The faculty of the Institute have University Aided Research Projects and also Externally Funded-Projects. During last five years (2010 to 2015) 91 papers in International Journals, 8 in National Journals, 6 Book Chapters and 16 Books have been published. The students have published their research work in journals of repute like Journal of Biotechnology, International Journal of Toxicology, Environmental International, Reproductive Toxicology, American Journal of Infectious Diseases, Expert Reviews and Asian Journal of Experimental Sciences.

Research Areas:

- T cell memory vis-a-vis vaccine development
- PGPR, Catabolite repression of MPS Phenotype, Rhizobial legume specificity
- Genetics of birth defects, cancer risk assessment
- Role and modulation of gut flora in diabetes
- Bioactive natural products, Cell-sound interactions
- Bioremediation of Hydrocarbons, Microbial Fuel Cell
- Neurodegenerative disease and Metabolic disorders
- Vaccine and diagnostics, Parasitology, DC biology
- Cancer prognostic biomarkers, 3D cancer cell models

Special Feature: In-vivo studies of various disease conditions e.g., Malaria, Diabetes, Epilepsy, UTI, Male Infertility are carried out in animal models.

Infrastructure for Research:

- Dedicated research laboratories for about 50 research scholars, a central instrumentation facility, plant growth area, animal cell culture facility, insectarium, animal house.
- Major equipments include Thermal Cycler, Gradient PCR, ELISA Reader, CO2 Incubator, UV-visible Spectrophotometers, Biosafety Cabinet, Gel Documentation System, Ultra Sonicator, BiologTM, Hybridization Chamber, HPLC, Fluorimeter, Denaturing Gradient Gel Electrophoresis, Orbital Shakers, Refrigerated Centrifuges, -20 & -80oC Freezers, Liquid Nitrogen Storage Facility; Compound, Inverted, and Dissection Microscopes.
- The Human Ethical Committee, Animal Ethical Committee, Biosafety committee, and Research Advisory committee are in place for excellent monitoring of biological research.

Summary of Funded Research

In addition to various distinct features, the Institute of Science also has to its credit various externally funded research projects:

Research Areas

- T Cell Memory vis-a-vis Vaccine Development
- PGPR, Catabolite Repression of MPS Phenotype, Rhizobial Legume Specificity
- Genetics of Birth Defects, Cancer Risk Assessment
- Role and Modulation of Gut Flora in Diabetes
- Bioactive Natural Products, Cell-sound Interactions
- Bioremediation of Hydrocarbons, Microbial Fuel Cell
- Neurodegenerative Disease and Metabolic Disorders
- Vaccine and Diagnostics, Parasitology, DC Biology
- Cancer Prognostic Biomarkers, 3D Cancer Cell Models

Funding Agencies

DBT (2), DST, GUJCOST, GSBTM
 GSBTM (2), DBT, DST
 GSBTM, GUJCOST
 GUJCOST
 GUJCOST
 iCREATE
 DST, GUJCOST
 DST





Extramural Research Projects

Completed

- "Diversity and Plant Promotion Abilities of Actinomycetes in the Wheat Rhizosphere in Gujarat Region", funded by Gujarat State Biotechnology Mission (GSBTM), worth Rs 17.6 lakhs.
- "Biotechnological Applications for Transforming the most abundant bacteria from Industrial Waste Waters of South Gujarat for Bioremediation", funded by Department of Biotechnology (DBT), Government of India, worth Rs 55 lakhs. (in collaboration with Navsari Agricultural University)
- "Identification of Compounds from Ginger, Cinnamon and Gooseberry Extracts having the Potential to prevent Protein Aggregation and Characterization of their Mechanism of Action", funded by DBT, GoI, worth Rs 44 lakhs.
- "Exploring the Colonization of Non-Rhizobia and Understanding the fate of Rhizobacteria during Rhizobial Infection in Mung Bean", funded by DBT (GoI) worth Rs. 27 lakhs.

Ongoing

Presently there are eleven externally funded major research projects running in the Institute of Science.

- "Understanding the Nature of Liver-Stage Specific CD8+ T Cells Generated following Infectious Sporozoite Challenge that ensue Long-lived Protection against Plasmodia Infection", funded by DBT, GoI, worth Rs. 45 lakhs.
- "Comparative Study of the Nature of Innate Immunity Generated in response to attenuated (yspz) vs. Infectious Sporozoite in Plasmodia Infection", funded by Gujarat Council of Science and Technology (GUJCOST), worth Rs. 4.85 lakhs.
- "Evaluation of Boric Acid induced Male Reproductive Toxicity and ascertaining Reversals Potential of Hydro-Alcoholic Extracts of Eclipta Alba", funded by Gujarat Council of Science and Technology (GUJCOST), worth Rs. 2 lakhs.
- "Identification of CD8+T Cell – Specific to Liver-Stage Antigens of Plasmodium berghei to understand Anti-Malarial Protective Immunity", funded by Gujarat State Biotechnology Mission (GSBTM), Department of Science & Technology (DST), GoG, worth Rs. 19.75 lakhs.
- "Ideopathic Mental Retardation and Dysmorphism: Karyotypic and UPD Analysis" funded by Gujarat State Biotechnology Mission (GSBTM), Department of Science & Technology (DST), GoG, of Rs. 15.27 lakhs.
- "Generation of Thermostable Variants of a Mesophilic Amylase by Directed Evolution and their Characterization" funded by Gujarat State Biotechnology Mission (GSBTM), Department of Science & Technology (DST), GoG, of Rs. 15.95 lakhs.

- "Biochemical Basis of Repression of MPS Phenotype in Rhizobia" funded by Gujarat State Biotechnology Mission (GSBTM), Department of Science & Technology (DST), GoG, of Rs. 14.33 lakhs.
- "Molecular Basis of Succinate Mediated (catabolite) Repression of Mineral Phosphate Solubilization in Nitrogen fixing Klebsiella pneumonia" funded by Department of Science & Technology, Govt. of India, of 28.89 lakhs.
- "Downs Syndrome In Gujarat: Molecular Probing In Origin" funded by Gujarat Council of Science and Technology (GUJCOST), worth Rs. 6 lakhs.
- Investigation of the molecular basis of enhanced EPS production by *X. campestris* under the influence of audible sound, funded by Gujarat Council of Science and Technology (GUJCOST), worth Rs. 3.99 lakhs.
- "Demographic survey of major cities of Gujarat for creation of Diabetic map.", funded by Gujarat Council of Science and Technology (GUJCOST), worth Rs. 1.46 lakhs.
- Infectious nature of Plasmodia modulating the innate response of host in liver stage infection deciding the fate of adaptive immunity", funded by Department of Science & Technology (DST), GoG, worth Rs. 52.10 lakhs.
- Development of Chimeric IL-15 to improve its bioavailability and efficacy.funded by DBT, GoI, worth Rs. 34.18 lakhs
- Reconstitution of novel TK/NOG mice with 'Humanized Liver' to study liver stage infection of Plasmodium falciparum, funded by Department of Science & Technology (DST), SERB, worth Rs. 44.00 lakhs.
- Regulation of MHC II expression: Immunity to malaria, funded by Department of Science & Technology (DST), SERB, worth Rs. 14.00 lakhs.
- Role of Cell Adhesion Molecules (CAMs) for insuling secretion during Diabetic and Hypoglycemic condition, funded by Department of Science & Technology (DST), SERB, worth Rs. 43.39 lakhs.



Collaboration with Research Institutes:

The University, recognizing research as the main drive of success in an academic setting, established a separate Faculty of Doctoral Studies and Research to initiate research programmes independently or in collaboration with national laboratories that have potential in terms of infrastructure and expertise. As a beginning such collaboration exists with institutions like Physical Research Laboratory, Space Application Centre, B.V. Patel Pharmaceutical Education & Research Development Centre, Ahmedabad, Forensic Science Laboratory, Gandhinagar, Cadila Pharmaceuticals Ltd, Ahmedabad and INTAS Biopharmaceuticals Pvt. Ltd, Ahmedabad. The decision has been taken to grant recognition to Institute of Plasma Research, Bhat, Gandhinagar.



National Conferences and Symposia

With a view to provide an opportunity to its faculty and students to interact with eminent scientists from India and abroad, the Institute has been organizing National Conference annually. The Institute of Science along with the Institute of Pharmacy had organized "National Seminar on Modern Trends in Supramolecular Nanotechnology & Nanomedicine" during 16th -17th March 2007. Institute of Science has been organizing the Seminar Series in the form of "Recent Advances in Molecular Biology & Biotechnology" on 26th March 2008, "Recent Advances in Biological Science" on 28th February 2009, "Frontiers in Modern Biology" on 18th &19th March 2010, and "Emerging Trends in Microbial Interactions and Challenges in Human Health" on 11th and 12th October, 2011, inviting eminent researchers from both Academics and Industries and providing an ideal platform for the Masters students to present their ideas in the form of Poster Competition. A National Conference on "Diabetes and its Complications: Search for Prevention and Cure" was organized on 6th and 7th September 2013. A one day seminar on "Current Trends in Molecular Biology" was organized by the Institute on March 08, 2014 and a Continuing Medical Education Programme in Immunology was conducted on 8th and 9th of August, 2014.



Co-curricular & Extra-curricular Activities

Co-curricular & extra-curricular activities play an important role in the all-round development of professional students. They indeed serve as an adjunct to the rigorous course work. The objectives of these activities are:-

1. To promote disciplined corporate, intellectual, civil and cultural life amongst students and the faculty of the institute
2. To foster activities to bring out creativity, promote the study and discussion talents of the students
3. To promote the study and discussion of subjects of national and international importance
4. To create awareness amongst the students about their professional identity and their obligations to the profession and society at large
5. To create a strong spirit of teamwork and cohesiveness by organizing various cultural, literary and professional activities along with the academic routine

Various students' activities like cultural festival, ras-garba, quizzes, elocution, debates, sports, annual day, class picnics etc. are regularly organized by the institute with adequate involvement of faculty members.

The institute also gives importance to projects, industrial visits and training during vacations to support their curricular work. The students are motivated to present seminars on latest developments in the field of science. Seminars enable students to develop many skills through internet, e-journals, books and journals on a specific topic. This helps to enhance their library reading, scientific writing and presentation skills. Students have participated at various national and state level competitions and have also won awards.

The institute organizes every year a cultural festival "Renaissance", which is a compilation of various events like drama, skit, dances, songs & debate, where the budding artists show their talents. Sports events are also regularly organized every year. Celebration of Independence Day and Republic Day are also organized at the University level.





Industry Institute Interaction Cell

Industry Institute Interaction Cell (III Cell) is established to provide close links with industries, contract research organization and other state and national level R & D organizations. The purpose of the cell is to find out the gap between the need of industry and the end products of the institute. The cell is the bridge between the industry and the institute. One of the objectives is also to offer programmes fulfilling the needs of continuing education of the industrial personnel. Industry institute interaction cell provides close links with industries. Placement of students for industry training/projects during summer has been benefiting students to a great extent.

We believe in developing programmes, which provide solution to real world problems with a strong desire of forging innovative alliances with industry to achieve synergy. III Cell imparts benefits to all components like students, faculty, institute and industry by interacting closely with the industries. Students are exposed to the real world and learn the needs of the future career.

The III Cell is governed by the advisory committee; headed by the Director as a chairman, Heads of departments as members and Placement-Training Officer as a member secretary. III Cell facilitates students' visits to industries, industrial training, project placements & campus interview.

Placement Cell

Campus interviews are organized by inviting various companies for the placement of the student for jobs. It fulfils dual purpose, one for students securing their future careers, another for the industry securing the best fresh talent available in the region to train and mould them for their long time need of the employees. Various lecture series and workshops are organized by the placement cell for the students to prepare them for the campus interviews.

The Institute of Science has a Placement Committee comprising the Director of the Institute as Chairman, the Placement Officer, The Institute level Placement Coordinator and Faculty and Student Representatives from each stream of Biotechnology, Biochemistry and Microbiology.

Industries involvement in Course Curriculum Design

In various academic bodies, there is adequate representation of industry experts which makes the curriculum rich and relevant to industries. Participation of experts from pharmaceutical industry is regularly helping us in designing and updating the curriculum.

Industrial Training for the Postgraduate Students

Training is the integral part of the study to acquaint them with real world problems. The students have to compulsorily go for internship to any industry during their summer break under supervision and guidance of respective industry personnel. The faculty carries out monitoring and evaluation regularly.



Alumni Association (ISNUAA)

The first seven batches of PG students have graduated from the Institute. All activities necessary to fully integrate the Alumni Association with the development efforts of the Institute are being actively planned. Regular contact with the alumni is maintained and efforts for their full participation in the activities of the Institute are being made.

DISCIPLINE- The Keyword

The University has earned a name for quality education. This is due to the efforts and devotion of well-qualified faculty of the University. The academic calendar for each year is notified in the beginning of each semester, and is strictly adhered to. Students' attendance is compulsory and any shortfall is notified to the students and parents. It is expected from every student that he/she must conduct himself/herself with discipline, decency and dignity both inside and outside the campus.





Faculty Corner

Through a judicious recruitment policy and enlightened approach, NERF has ensured that the Institute is staffed by a well-qualified and competent faculty to shoulder the responsibilities of maintaining high standards of education in the Institute. In keeping with the aims outlined in the mission statement, the faculty members remain fully conscious of their dual role both as teachers to efficiently impart technical knowledge to the students as well as counsellors to guide them for their overall development.

Faculty Development Programmes

The teachers are encouraged to update their knowledge and skills through various training and learning modes. Constant efforts are being made by the management to achieve this aim. Some of the initiatives taken in this direction are listed below:

- In-service registration to pursue Ph. D. programmes
- Participation in reputed Conferences and Seminars
- Participation in Collaborative Research Projects
- Promotion of Consultancy
- Training in Industries and Specialized Laboratories.
- To Organize and Conduct National/ State Level Training Programmes for Professionals



Faculty Profile



Dr. Sarat K. Dalai (Professor)

- Ph.D. in Immunology (Jawaharlal Nehru University, New Delhi)
- M.Sc. in Biotechnology (Jawaharlal Nehru University, New Delhi)
- **Experience:** Post Ph.D. Research - 15 years, Teaching – 4 years.
- **Area of Expertise:** T cell Immunology
- Email: sarat.dalai@nirmauni.ac.in

Research Interest:

Our laboratory is interested in understanding the generation and maintenance of memory T cell responses. Although we are addressing these issues from basic immunology point of view, the nature of our research is translational. Major efforts of our laboratory are directed toward understanding the nature of immune responses generated against Plasmodia liver-stage infection. Protective immunity against malaria parasite can be generated experimentally or by natural infection. However, the protection does not last long. We have developed animal model(s) that is analogous to natural infection encountered by people living in endemic area, and found that the protective immunity can be extended longer in immune-host receiving intermittent challenge of infectious sporozoite. At mechanistic level we want to understand how the live-sporozoite infection is bringing in qualitative changes in the immune responses, (particularly, memory T cell responses) that ensure long-lived anti-parasite specific immunity. We are also working on developing novel immune-modulator that will help potentiate generation of robust effector and memory T cell responses, and maintenance of memory. In parallel, we are also developing alternative vaccination strategies for non-lived vaccines mimicking natural infection to induce long-lived antigen specific immune response.

Selected Publications:

1. Dalai SK, Yadav N, Patidar M, Patel H and Singh AP (2015). Liver-stage specific response among endemic populations: diet and immunity. *Frontiers in Immunology*, 6:125. doi: 10.3389/fimmu.2015.00125.
2. Tyagi RK*, Garg NK, Jadon R, Sahu T, Katare OP, Dalai SK, Awasthi A, Marepally SK. Elastic liposome-mediated transdermal immunization enhanced the immunogenicity of P. falciparum surface antigen, MSP-119. *Vaccine* 2015 Aug 26;33(36):4630-8. doi: 10.1016/j.vaccine. 2015.06.054
3. Stasya Zarling, Dmitri Berenzon, Sarat Dalai, Dmitry Liepinsh, Nick Steers Urszula Krzych (2013). The survival of memory CD8 T cells that is mediated by IL-15 correlates with sustained protection against malaria. *Journal of Immunology*, 190(10): 5128-4.
4. Krzych U, Dalai S, Zarling S and Pichugin A (2012). Memory CD8 T cells specific for Plasmodia liver-stage antigens maintain protracted protection against malaria. *Frontiers in Immunology*, 3:370. doi: 10.3389/fimmu.2012.00370.
5. Sarat K. Dalai, Stanislav Khoruzhenko, Charles Drake, Chunfa C. Jie and Scheherazade Sadegh-Nasseri (2011). Resolution of infection promotes a state of dormancy and long survival of CD4 memory T cells. *Immunology and Cell Biology*, 89(8):870-81.



Dr. Shalini Rajkumar (Associate Professor)

- Ph.D. (Microbiology), Indian Agricultural Research Institute, New Delhi, 2001
- M.Sc. (Microbiology), Indian Agricultural Research Institute, New Delhi, 1997
- **Experience:** Post Ph.D. Research – 10 years, Teaching – 11 years, Industry – 6 months
- Fellowships/Net- CSIR NET & JRF; CSIR- SRF; ICAR-NET & SRF; IARI JRF& SRF
- **Area of expertise:** Plant microbe interactions, Diversity of Actinomycetes for PGPR, Catabolite repression of MPS Phenotype
- Email: shalini.rjk@nirmauni.ac.in

Research Interest:

Actinomycetes produce a variety of antibiotics and also play an important role in enhancing plant growth by secreting enzymes, preventing root pathogens, phosphate solubilization, siderophore production etc. Hence Actinomycetes diversity and assessment of PGP properties must be done by classical and molecular approaches.

P deficiency is a biophysical constraints to crop production and some N fixing Rhizospheric bacteria can solubilize phosphate by secretion of organic acids which is favored when glucose is the carbon source. Carbon catabolite repression describes the phenomenon whereby the presence of glucose represses catabolism of alternative carbon sources. The mechanisms of carbon catabolite repression can repress MPS phenotype in nitrogen fixers.

Rhizobacteria collectively called rhizobia form nodules in roots of legumes to carry out nitrogen fixation. The basis of legume-Rhizobium symbioses is host specificity that often restricts use of beneficial rhizobia upto the specific host plant. However, some reports confirm microorganisms other than rhizobium cultured from nodules which may have gained entry through root hairs along with the native species by breaching host specificity.

Selected Publications:

1. Mahendrapal Singh Rajput, Bhagya Iyer, Maharshi Pandya, Rahul Jog, Naresh Kumar G, Shalini Rajkumar (2015). Derepression of Mineral Phosphate Solubilization Phenotype by Insertional Inactivation of iclR in Klebsiella pneumonia. PLoS ONE 10(9): e0138235. doi:10.1371/journal.pone.0138235
2. Maharshi Pandya, Mahendrapal Singh Rajput, G. Naresh Kumar and Shalini Rajkumar (2015) Exploring plant growth promoting potential of non rhizobial root nodules endophytes of Vigna radiata. Microbiology. 84(1): 110–119.
3. Rahul Jog, Maharshi Pandya, G Nareshkumar, and Shalini Rajkumar (2014). Mechanism of phosphate solubilization and antifungal activity of Streptomyces spp. isolated from wheat roots and rhizosphere and their application in improving plant growth. Microbiology. (In Press)
4. Maharshi Pandya, G. Nareshkumar, Shalini Rajkumar (2013). Invasion of rhizobial infection thread by non-rhizobia for colonization of Vigna radiata root nodules. FEMS Microbiology Letters. 348: 58-65.
5. Mahendrapal Singh Rajput, G. Naresh Kumar and Shalini Rajkumar (2013) Repression of oxalic acid mediated mineral phosphate solubilization in rhizospheric isolates of Klebsiella pneumoniae by succinate. Archives of Microbiology 195 (2) 81-88.

Dr. Sonal R. Bakshi (Assistant Professor)

- Ph.D. in Life Science (Gujarat University, Ahmedabad),
- M.Sc. in Microbiology (M.S. University, Vadodara)
- **Experience:** Post Ph.D. Research – 14 years, Teaching – 5.5 years
- **Area of expertise:** In vitro assessment of genotoxicity of external agents like nanoparticles and cell phone radiation; Genetic analysis of human birth defects, Cytogenetics and molecular cytogenetics of leukemia
- Email: sonal.bakshi@nirmauni.ac.in

Research Interest:

One of our research interests is genetic determinants of human birth defects: The cytogenetic studies by Karyotyping, deep phenotyping of affected patients their parents and extended family along with molecular markers is carried out. We are interested in the study of non-syndromic patients as the outcome can be valuable for the patient management, familial risk assessment, genetic counselling, and can also possibly lead to guideline for the prenatal testing. Another research area is in vitro assessment of genotoxicity for cancer risk assessment. The cytogenetic endpoints of genotoxicity like chromosome aberrations, micronucleus, and comet assay are used in our laboratory for cancer risk assessment following in vitro exposure to certain candidate compounds like plant extracts with anti-cancer activity, nano particles of various metal oxides, and cell phone radiation, using short-term in vitro cultured human lymphocytes to assess the cytogenetic and DNA damage.

Selected Publications:

1. Sonal R Bakshi, Man Singh, Suhani Sagar Patel, Palak N Patel et al., DNA binding and dispersion activities of Titanium dioxide nanoparticles with UV/Vis spectrophotometry, fluorescence spectroscopy and physicochemical analysis at physiological temperature. Journal of Molecular Liquids, 213:304-311, 2016.
2. Fulesh Kunwar, Vidhi Pandya, Sonal Bakshi. Constitutional mosaic trisomy 13 in two germ cell layers is different from Patau syndrome? A case report. Journal of Clinical & Diagnostics Research, 10(3):3-5, 2016.
3. AD Bhatt, T Liehr, SR Bakshi. Phenyotypic spectrum in uniparental disomy: Low incidence or lack of study? Indian journal of human genetics 19 (3), 311, 2013
4. Sonal R. Bakshi, Bhavana J. Dave, Warren Sanger, et al; Characterization of a small familial supernumerary marker chromosome in a patient with adult-onset tongue cancer. Cytogenetics & Genome Research 2008;121(1):14-7. doi: 10.1159/000124376. Epub 2008
5. Sonal R Bakshi, Tanja Friedrich, Ilse Chudoba, et al. Constitutional tetrasomy 18p in an Indian female child: A family study. Indian Pediatrics. 43: 357-360, 2006.



Dr. Sriram Seshadri (Assistant Professor)

- Ph.D. in Science (Reproductive Physiology) (University of Rajasthan, Jaipur)
- M.Sc. in Zoology (Comparative Endocrinology & Immunology (Sardar Patel University, Anand)
- **Experience:** Post Ph.D. Research – 12 years, Teaching – 12 years
- **Area of expertise:** Cancer Biology, Pathophysiology of Liver, Reproductive Physiology & Endocrinology, Probiotics, Gut Mucosal Immunology and UTI
- Email: sriram.seshadri@nirmauni.ac.in

Research Interest

My research interest includes understanding the role of gut microflora in diabetes and pathophysiology of liver during diabetes and in liver cancer. Innate immunity has been involved in the progression of diabetes and pathogenesis of liver and additionally, it is also involved in the normal functioning of the male reproductive functioning.

We have prepared pH specific microsphere loaded with strain specific antibiotics and evaluating its effect on the pathophysiological, immunological conditions in diet induced type II diabetes. We are trying to understand the role of statins, cholesterol reducing drug and efficacy of anti-cancer drugs and to understand the implications on the gut microflora. We are also working on the evaluation of the probiotic potentials of Lactobacillus spp. from the vaginal tract for the treatment of UTI. We have successfully transformed vaginal isolate lactobacillus with Cathelicidin and Colicin E2 which shows good antibacterial activity against uropathogenic E. coli in vitro. The in vivo studies are ongoing. We are also working on identification of a cross talk between the calcium channels on the sperm and TLRs. We are trying to correlate the role of calcium channels in sperm and neutrophils on the mitochondrial functioning. We are investigating the differential role of TLRs and NLRs in GI tract as well as male reproductive organs following induction of fructose induced Type II diabetes and understanding its role in male reproductive physiology.

Selected Publications:

1. Prajapati Bhumika, Prasant Kumar Jena, Parth Rajput, Kaveri Purandhar and Sriram Seshadri, Understanding and modulating the Toll like Receptors (TLRs) and NOD like Receptors (NLRs) Cross Talk in Type 2 Diabetes. *Current Diabetes Reviews*, 3(10), 190-200, 2014.
2. Kaveri Purandhar, Prasant Kumar Jena, Bhumika Prajapati, Parth Rajput, Sriram Seshadri. Understanding the Role of Heat Shock Protein Isoforms in Male Fertility, Aging and Apoptosis. *World Journal of Men's Health* 32(3): 123-132, 2014.
3. Prajapati Bhumika, Prasant Kumar Jena, Parth Rajput, and Sriram Seshadri. Role of Pattern Recognition Receptors and inflammatory mediators following gut microbiota alteration in high sugar diet mediated type 2 diabetes. *Journal of Obesity and Weight Loss Therapeutics*, 4(5): S1-014. 2014.
4. Tapasa Kumar Sahoo, Prasant Kumar Jena, Nidhi Nagar, Amiya Kumar Patel and Sriram Seshadri. In Vitro Evaluation of Probiotics Properties of Lactic Acid Bacteria from the Gut of Labeo rohita and Catla catla. *Probiotic and Antimicrobial Proteins*, 2015; DOI 10.1007/s12602-015-9184-8 (Impact Factor – 1.54).
5. Sriram Seshadri. Exploiting the Vaginal Microbiota for Therapeutic Interventions. In: Mishra P. K. and Sharma R. S. (Eds.) *Perspectives of Reproductive Health Research on a Post-2015 Development Framework*. ISSRF Newsletter, Pointer Publishers, India, 2015, 81-83.

Dr. Vijay Kothari (Assistant Professor)

- Ph.D. in Science (Plant antimicrobials) (Nirma University, Ahmedabad)
- M. Sc. in Microbiology (Gujarat University, Ahmedabad)
- **Experience:** Post Ph.D. Research/Teaching – 5 years
Experience: Post Ph.D. Research- 2 years, Teaching – 11 years
- **Area of Expertise:** Bioactive natural products; Cell-sound interaction; Biological applications of microwaves.
- Email: vijay.kothari@nirmauni.ac.in

Research interests:

1. **Bioactive natural products:** We are mining natural products of plant/microbial origin for their possible antimicrobial and/or anti-infective potential. In particular, we are focusing on natural products capable of interfering with bacterial quorum-sensing. Natural preparations found effective during in vitro study, are further being evaluated for their in vivo efficacy using *Caenorhabditis elegans* as a model host. In silico approach is also being applied for getting some insight into the possible mode of action of potential quorum-sensing inhibitors.
2. **Cell-sound interaction:** We are investigating the influence of sound-stimulation on different eukaryotic and prokaryotic microbes, with an aim to elucidate the molecular basis of microbial response to sound.

Selected publications:

1. Niral Sarvaiya, Vijay Kothari (2015). Effect of audible sound in form of music on microbial growth and production of certain important metabolites. *Microbiology*, 84(2):227-235. DOI: 10.1134/S0026261715020125
2. Shreya Raval, Vimla Chaudhary, Haren Gosai, Vijay Kothari (2014). Effect of low power microwave radiation on pigment production in bacteria. *Microbiology Research*, 5(1):4-8. DOI: 10.4081/mr.2014.5511
3. Haren Gosai, Shreya Raval, Vimla Chaudhary, Vijay Kothari (2014). Microwave mutagenesis for altered lactic acid production in *Lactobacillus plantarum*, and *Streptococcus mutans*. *Current Trends in Biotechnology and Pharmacy*: 8(4):402-412.
4. Vimla Chaudhary, Haren Gosai, Shreya Raval, Vijay Kothari (2014). Effect of certain natural products and organic solvents on quorum sensing in *Chromobacterium violaceum*. *Asian Pacific Journal of Tropical Medicine*; 7(Suppl 1): S204-S211. doi: 10.1016/S1995-7645(14)60233-9
5. Ina Patel, Vaibhavi Pate, Asha Thakkar, Vijay Kothari (2013). *Tamarindus indica* (Cesalpiniaceae), and *Syzygium cumini* (Myrtaceae) seed extracts can kill multidrug resistant *Streptococcus mutans* in biofilm. *Journal of Natural Remedies*, 13(2): 81-94.



Dr. Nasreen Munshi (Assistant Professor)

- Ph.D. in Microbiology (Gujarat University, Ahmedabad)
- M. Phil. in Microbiology (Gujarat University, Ahmedabad)
- M. Sc. in Microbiology (Gujarat University, Ahmedabad)
- **Area of Expertise:** Hydrocarbon Bioremediation, Microbial Fuel Cell Development, Microbial Diversity and Plant Growth Promoting Rhizobacteria
- **Experience:** Post-PhD. Research - 8 years, Teaching - 9 years
- Email: nasreen.munshi@nirmauni.ac.in

Research Interests

- **Bioremediation:** Development of a bioprocess for the treatment of common industrial effluents by isolation of the most abundant organism in the effluents followed by modifying its potential for bioremediation of aromatic compounds by incorporation of degradative genes and increasing its potential for energy capture. The survival of the modified bacteria could be enhanced by incorporating the ability to harvest the solar energy by cloning of the bacteriorhodopsin and retinal biosynthesis genes.
- **Microbial Fuel Cell:** MFC is a bio-electrochemical system which utilizes the metabolic potential of microbes for converting energy in organic matter to electrical energy by transferring electrons from the cell to external circuit. A bacterium was screened and found to have electrogenic properties to produce electricity up to 0.8 V in designed MFC for nearly eight weeks. Further research impetus in this field under exploration are to increase the voltage output by modification of physicochemical environment in MFC as well as electronic circuit designs.
- **PGPR:** Coastal Wastelands covers huge area in Gujarat and are characterized by high salinity and low fertility and therefore have negligible applications. Phosphorus and zinc deficiencies are the major problems associated with salinity. There exists the potential for halotolerant bacteria isolated from rhizosphere soil of coastal saline areas to function as plant growth promoters (PGP) for cultivation of biodiesel plant *Jatropha* in Gujarat wasteland.

Selected Publications:

1. Purvi Zaveri, Nasreen Munshi, Alok Vaidya, Sanjay Jha and G. Naresh Kumar (2015). Functional microbial diversity dynamics in common effluent treatment plants of South Gujarat and hydrocarbon degradation. *Canadian Journal of Microbiology*, 61(6): 389 – 397. DOI:10.1139/cjm-2014-0700.
2. Debaashish Biswas, Abhishek Mandal, Hina Akbari and Nasreen Munshi (2013). Investigation of functional microbial diversity and related abiotic factors in coastal and desert ecosystem of Gujarat. In: "Prospects in Bioscience: Addressing the issues", A. Sabu and A. Augustine (Eds.), Springer, India, pp: 351 – 362.
3. Haque, Nasreen A. and Shailesh R. Dave (2005). Ecology of phosphate solubilizers in semi-arid agricultural soils. *Indian J. Microbiol.*, 45: 27 – 32.
4. Haque, Nasreen A. and Shailesh R. Dave (2004). Screening of phosphate solubilizing microorganisms from semi arid soils. *Int. J. Biosciences Reporter*, 2(2): 204 – 211.
5. Soni Harsha P, Nasreen A. Haque and Shailesh R. Dave (2002). Characterization of agricultural soils from semi arid region on the basis of carbohydrate utilization patterns of soil microbial communities. *Asian J. Microbiol. Biotechnol. Env. Science*, 4(3): 295 - 303.



Dr. Ameer K. Nair (Assistant Professor)

- Ph.D. in Life Sciences (Neuroscience), (Cochin University of Science & Technology, Cochin)
- M. Sc. in Botany (Environmental Biology)(M.G. University, Kerala)
- **Experience:** Post Ph.D. Research – 6 years, Teaching – 5 years, 7 months
- **Area of Expertise:** Neurodegenerative Disease and Metabolic Disorders
- E-mail: ameenair@nirmauni.ac.in

Research Interest

Proper neuronal structure, morphology, connectivity and nutrition are prerequisite for proper functioning of the nervous system. Demyelination occurs during neuropathy which is a common debilitating complication of diabetes that results in pain, decreased motility and amputation. Axonal degeneration especially the myelin sheath damage is clearly a hallmark of neuropathy. Schwann cells and oligodendrocytes, critical in regulating and maintaining myelin thickness through axon-derived signals, also undergo substantial degenerative changes. Current mode of treatment for neuropathy remains symptomatic. Our research is an attempt to understand the generation and maintenance of myelination and its critical regulation through insulin. Changes in the growth factors and neurotrophic factors causing demyelination as a result of abnormal glucose metabolism and insulin signaling during diabetes will help to identify novel molecules that could be of therapeutic targets for neuropathy.

Also glucose metabolism in brain has been linked to intensification of seizures. Biochemical assays along with behavioural studies to assess the cognitive and motor deficits are carried out to study the role of glucose transporters during the ictal and inter ictal period during epilepsy.

Selected Publications

1. Ameer Krishnakumar, Anju T.R, Pretty Mary Abraham, and C. S. Paulose. Alteration in 5-HT_{2C}, NMDA receptor and IP₃ in cerebral cortex of epileptic rats: Restorative role of *Bacopa monnieri*. *Neurochemical Research* 40(1): 216-25 (2015).
2. Sherin Anthony, Peeyush K. T., Jayanarayanan S., Ameer Krishnakumar., Paulose C. S. Decreased Cholinergic Receptor Expression in the Striatum: Motor Function Deficit in Hypoglycemic and Diabetic Rats. *Cell Mol Neurobiol.* 83(6):360-6 (2012).
3. Ameer Krishnakumar, Nandhu M. S and C. S. Paulose. Up regulation of 5-HT_{2C} receptors in Hippocampus of pilocarpine induced epileptic rats: Antagonism by *Bacopa monnieri*. *Epilepsy and Behaviour.* 16: 225–230. (2009).
4. Ameer Krishnakumar, Pretty Mary Abraham, Jes Paul and C. S. Paulose Down-regulation of cerebellar 5-HT_{2C} receptors in pilocarpine-induced epilepsy in rats: Therapeutic role of *Bacopa monnieri* extract. *Journal of Neurological Sciences* 284: 124–128. (2009).
5. Remya Robinson, Ameer Krishnakumar and C. S. Paulose. Enhanced Dopamine D1 and D2 Receptor Gene Expression in the Hippocampus of Hypoglycaemic and Diabetic Rats. *Cellular and Molecular Neurobiology* 29:365–372.(2008).



Dr. Rajeev K. Tyagi (Assistant Professor)

- Ph.D. in Parasitology/Infectiology/Vaccinology/immunology, Institute Pasteur, Paris, France
- Postdoctoral experience: Department of Global Health, University of South Florida, and Department of Periodontics, Georgia Regents University, USA
- M. Sc. in Biotechnology, Department of Biotechnology, Ch. Charan Singh University (Formerly Meerut University), Meerut, UP, India
- **Experience:** Post Ph.D. Research - 5 years, Teaching experience- 6 months
- **Fellowships:** Best Ph.D. thesis award, GATE-2003, NET-CSIR-2003, AICTE-NDF-2005
- **Area of expertise:** Vaccine and diagnostics; delivery vehicles for vaccine and drug candidates; Parasitology/Infectiology/Vaccinology/immunology/translational biomedical research, nanotechnology
- Email: rajeev.tyagi@nirmauni.ac.in

Research Interest:

My lab is putting its efforts in developing a long lasting, stable and straightforward laboratory animal model (humanized mouse model: a versatile mouse model) to study asexual blood and liver stage infection of Plasmodium falciparum. The developed humice (P. falciparum-huRBC-NSG) with estimated sub-optimal inflammation proved an asset to study asexual growth mutants and help identifying novel chemotherapeutic targets to develop new anti-malarial drugs.

Our lab strides forward to develop human liver chimeric mice employing a transgenic strain (TK/NOG-NOG mice engineered with a herpes simplex type 1 thymidine kinase transgene that is driven by a liver-specific albumin promoter) to transplant huHep through a non-invasive Ultra Sound Guided Injection technique via intrasplenic route. This reconstituted humice will be used to detect P. falciparum infection and to identify novel drug and vaccine candidates.

Our current studies are aimed at using the diverse experience of translational biomedical research in association with nanotechnology to steer us to success in the area of vaccines and diagnostics. Our lab is determined to address issues pertaining to systemic inflammatory disorders and to understand host-pathogen interaction.

Selected Publications:

1. Tyagi RK, Garg NK, Singh B, Sharma G, Nirbhavane P, Kushwah V, Jain S, Katare OP. Nanostructured lipid carrier mediates effective delivery of 1 Methotrexate to induce apoptosis of Rheumatoid Arthritis. International Journal of Pharmaceutics (DOI: 10.1016/j.ijpharm.2015.12.061) 2015, In press)
2. Tyagi RK, Garg NK, Singh RS, Sahu T, Katare OP, Dalai SK, Awasthi A Marepally SK. Elastic liposome mediated transdermal immunization enhanced the immunogenicity of P. falciparum surface antigen, MSP-119. Vaccine, pii: S0264-410X (15)00843-9. doi:10.1016/j.vaccine.2015.06.054
3. Tyagi RK, Garg NK, Jain A, Jain AK, Singh B, Katare OP, Vandana Soni. Nanoscale drug carriers bypass blood-brain barrier. Materials Today, August 3, 2015 ()
4. Tyagi RK, Arnold LB, Meija P, Swetman C, Gleeson J, Perignon JL and Druilhe P. Further improvements of the P. falciparum humanized mouse model. PLoS one 6:3 (2011): e18045.
5. Tyagi RK, Garg NK & Sahu T. Vaccination Strategies against Malaria: novel carrier(s) more than a tour de force. Journal of Controlled Release 162 (2012) 242–254

Dr. Heena V. Dave (Assistant Professor)

- Ph.D. in Life-Sciences (Cancer Biology) (Gujarat University, Ahmedabad)
- Postdoctoral Fellowship at Department of Radiation Oncology, New York University
- M.Sc. in Life-Sciences (Gujarat University, Ahmedabad)
- **Experience:** Post Ph.D. Research – 6 years, Teaching – 3 years.
- **Fellowships:** Fulbright Nehru Indo-US Doctoral and Professional Fellowship at Cornell University (DPR-2009-2010)
- **Area of Expertise:** Signal Transduction, Cancer Biology and Tumor Biomarker
- Email: heena.dave@nirmauni.ac.in

Research Interest:

My chief research interest is to establish the gene signature/ index that will pave a way for administering personalized medicine to the cancer patients. Presently, numerous biomarkers are identified and are believed to be responsible for mammary carcinogenesis. However, cross-talk between the signal transduction pathways especially between the steroid hormone receptor super family and growth factor families is still not yet explored; the quest for a single comprehensive biomarker is currently continued. We are trying to understand the mechanisms of antiestrogen resistance and / or non-responsiveness and to identify the alternative biomarkers for breast cancers. We want to concentrate our efforts and knowledge in the development of new biomarkers which will be helpful in the prevention, diagnosis, prognostication and therapeutic monitoring of several tumor types paving a way to personalized medicine.

Selected Publications:

1. Savjiyani JV, Heena Dave, Trivedi S, Rachchh MA and Gokani RH (2012) : Evaluation of Anti cancer activity of polyherbal formulation; International Journal of Cancer Research, 8(1):27-36.
2. Heena Dave, Manoj Shah, Sunil Trivedi, Shilin Shukla (2012): Prognostic Utility of Circulatory Transforming Growth Factor Beta 1 in Breast Cancer Patients; International journal of Biological Markers, 27(1): 53-59; doi: 10.5301/JBM.2011.8736.
3. Heena Dave, Sunil Trivedi, Manoj Shah, Shilin Shukla (2011). Transforming growth factor β 2: A predictive marker for breast cancer: Indian Journal of Experimental Biology, 49: 879-887.
4. Heena Dave, Manoj Shah, Shilin Shukla and Sunil Trivedi (2011) Differential Gene Expression Pattern of Transforming Growth Factor Beta-1 in Early and Advanced Breast Cancers; J Cancer Sci Ther 2011, 3:244-249. http://dx.doi.org/10.4172/1948-5956.1000098.
5. Dave Heena V., Raval Apexa P., Shah Manoj J., Trivedi Sunil N. (2010): TGF- β Receptors: The Predictive/Surrogate Markers for Breast Cancer Survival. GCRI Bulletin,12 : 118-134.



Pillars of Strength

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(Office Superintendent)
Administration

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(I/c Librarian), Library

Ms. Svetal Shukla
(Assistant Librarian), Library

Mr. Parthiban S. Mudaliyar
(PA cum Stenographer)

Mr. Hasit Trivedi
(Junior Assistant) Administration

Mr. Sachin Prajapati
(Lab Assistant), Laboratory

Ms. Sweta Patel
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The Learning at Institute of Science

COURSE WORK

The main mode of learning at the Institute includes classroom activity, laboratory work, tutorials, and site visits

INDUSTRY EXPOSURE

Industry visits, training in industry, experts from industry deliver lectures and seminars, and industry projects

EXPOSURE TO TRENDS AND DEVELOPMENTS

Organizing workshops, seminars, conferences etc. on topics of current interest

GROUP LEARNING

Students are encouraged to learn in groups and group projects are also a part of the academic life at the Institute

LEARNING FROM PEERS

Students are encouraged to learn from senior students and the Institute organizes special sessions and workshops that are conducted by senior students

COMMUNICATION SKILLS DEVELOPMENT

Some of the regular features at Institute campus are group discussions, debates, elocution, newsletters and magazines of various student bodies; opportunity to attend special classes to enhance English Language skills

SOCIAL RESPONSIBILITY

Contribute to the society at large by participating in activities like relief programmes for the earthquake and natural calamities affected, participate in social work through Rotract Club etc.

EXTRACURRICULAR ACTIVITIES

Participate in cultural events, student festivals, sports and personality development programmes

CO-CURRICULAR ACTIVITIES

Participate in technical competitions, exhibitions, festivals throughout the country; prepare for TOEFL, GATE, GRE and CAT; participate in international projects; and participate in events and activities of student bodies of various engineering departments