

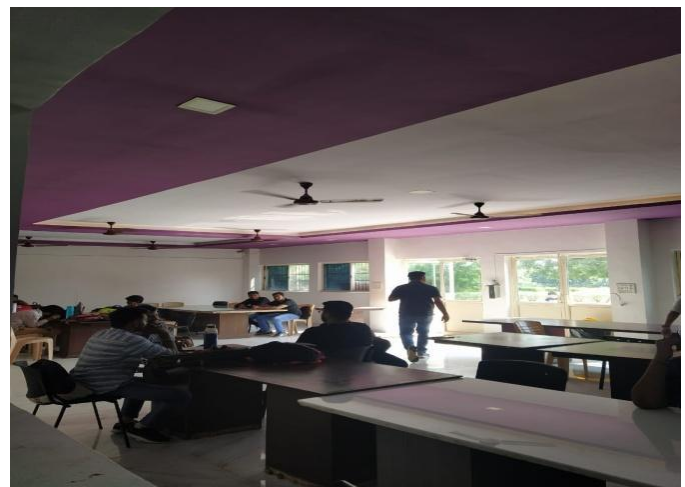
RESIDENCES AND HOSTELS

Limited number of hostel accommodation including AC & Non AC is available for students inside the campus. Separate hostels are available for male and female students. Hostel accommodation is provided on shared basis. Furniture and other essential facilities are provided to hostel residents. The accommodation will have a single bed, mattress, pillow, side table and a cupboard. Hot water facility is available in bathrooms. Wi-Fi facility is available at the hostel. GIFT city (first smart city in India) is only about 5 minutes away from our campus. Students get an opportunity to be with the rapidly developing area.

CANTEEN AND CAFETERIA

Messing facilities and full day cafe are available for students in the hostel. Indian vegetarian meals are served. Canteen facilities are also available for all staff and students in the university.

1) Canteen renovated with ceiling work and chimney installed



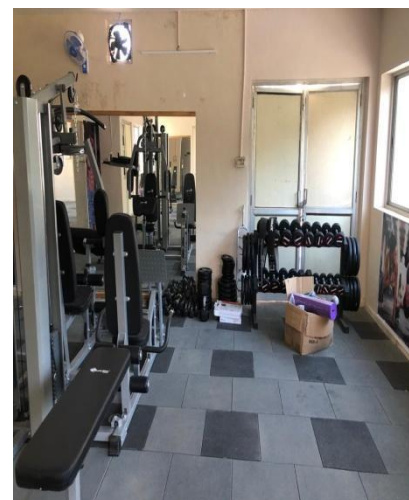
2) Installed lift in existing building



3) Faculty residence converted in to the hostel to increase the student occupancy



4) Created Gym Facilities for the students and staff



5) Made Boundary wall and fencing to protect the campus



6) Developed a garden near to gym area in to the University premises.



Internet

Broadband internet facilities are provided in the main building student social spaces and hostel complex at the University Campus. Students may avail higher bandwidth connections on payment basis.

Sports Facilities

Various indoor and outdoor sports facilities are available on the campus. Sports events are organized on regular basis in the campus. Students participate in

Volleyball, Cricket, Athletics and other sports. Gymnasium with instructor is also available for students.



TRANSPORT

Taxi and Auto-Rickshaws are available for travel to Airport, Railway Stations and Bus stands. The University provides transport facilities for students coming from Ahmedabad and Gandhinagar on payment through a partnership with a neighboring institution.

The University has a contracted service for students to travel to the campus by bus.



Institute of Advanced Research
The University for Innovation

ANNUAL REPORT 2019-20



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Foreword



The academic year 2019-20 has seen successes for IAR on many fronts. Student numbers continue to grow in this fledgling university. The University established itself as a place for research-driven academic enterprise.

We are pleased to report that the Founder, Professor Nathu Ram Puri and the Trust have recommitted themselves with additional resources to realise the vision set by our former President, Late Dr. Abdul Kalam and our Prime Minister, Shri Narendra Modi.

We refocused the Institute of Advanced Research as the University for Innovation, bringing together sciences, engineering and management underpinned by creativity and entrepreneurship. Our distinctive strength comes

from the quality of our people. We expanded our research and innovation capacity by attracting high quality people back from France, UK, US, Korea, Israel and xxx in addition to top IITs and universities within India. All our faculty have earned doctorates from leading universities in India or overseas with postdoctoral experience.

We embarked on an ambitious campus expansion, starting with the new Engineering Building, which was to become available for the start of the 2020-21 academic years. Unfortunately, the completion of the building is delayed because of the Covid-19 pandemic, but we expect the building to become available for the second semester. We invested in developing student facilities, including additional hostel accommodation, a gym and a range of other sports facilities.

We strengthened the Governing Board by attracting experienced researchers, industry leaders and businessmen to help and advise us to continuously enhance our strategy and operations. We also attracted academic and industry leaders on to our Academic Council, as some members retired.

A range of new academic programs were developed and validated to support the current and future needs of employers and research institutions. New programs in areas such as business analytics, data science, entrepreneurship, strategic management, molecular medicine, industrial biotechnology and

The Institute of Advanced Research is committed to developing and delivering world-leading higher education programs that are underpinned by relevant research. Education disconnected from the real world context does not

necessarily lead to graduates who will be the driving force for growth of the economy and, social and environmental well-being that we seek. Therefore, students at the Institute of Advanced Research (IAR) actively interact with society, business and industry through extra-curricular and co-curricular programs. Our students and faculty benefit from a structured interaction with business and industry leaders through open lectures, collaborative research and innovation, business competitions, industry visits and voluntary work in society.

Increasingly complex problems demand ever innovative solutions, which can only be realized through multidisciplinary education, research and application, which are all intertwined.

Acquisition of knowledge is one but important aspect of university education. Our focus is also on developing our students as confident and enterprising individuals as we believe that confident and enterprising graduates will be the future leaders and change-makers in our society.

We are a young and growing university, allowing us for setting the agenda for innovative university education, research and enterprise to contribute to the social and economic advancement of our state and our nation.

I warmly welcome you to join us in this journey.

Professor Rao Bhamidimarri
President

VISION, MISSION AND OBJECTIVES

Vision

The leader in intellectual and professional influence for the benefit of the society and the economy

Mission

To provide outstanding professionally focused educational opportunities with a broadly-based curriculum and co-curricular programs that ensure our students will be most sought after by employers.

We will achieve this through world class research and innovation led academic programs in partnership with employers through student centered learning strategies and cutting edge learning environments.

Objectives

- ❖ Our University will be an outstanding place of learning and personal development for young people in our communities.
- ❖ Employers and research funders will be integral to our strategic development and learning of students and staff of the University.
- ❖ We will establish a school and a technical college on the campus in order to provide pathways for education and professional opportunities for young people in our communities.

- ❖ We will offer additional certificated education and training opportunities for our students in partnership with the community and industry partners to enhance career opportunities for our students.
- ❖ We will have innovative learning environments that will promote student centered learning with access to state of the art infrastructure.
- ❖ We will be the first choice for students and high achieving staff.
- ❖ Our students will be most preferred by top universities and employers.

ABOUT UNIVERSITY



The grand challenges that the society faces today can only be met by education and innovation. Whether it is the impact of climate change, resource depletion or life-long health and well-being, these can only be confronted by the advancement of knowledge and its application.

The Institute of Advanced Research (IAR) is a research and innovation intensive university, which offers undergraduate, postgraduate and research degree programs. IAR was established in 2006 with the support of the then President of India Dr. A P J Abdul Kalam, who inaugurated the Institute, and

the Prime Minister, Shri Narendra Modi, who was the then the Chief Minister of Gujarat. The University is financially supported by the Puri Foundation for Education in India, established by Professor Nathu Ram Puri, who is a leading industrialist in the UK with manufacturing and other business operations world-wide. The University is a not-for-profit institution and its sole purpose is to promote world-leading research and innovation led education for young people in Gujarat and nationally.

The Institute of Advanced Research is committed to developing and delivering world leading higher education programs that are underpinned by relevant research. Education disconnected from the real world context does not necessarily lead to graduates who will be the driving force for step change in the economy and, social and environmental well-being that we seek. Therefore, students at IAR actively interact with society, business and industry through extra-curricular and co-curricular programs. Our students and faculty benefit from a structured interaction with business and industry leaders through open lectures, business competitions, industry visits and voluntary work in society.

IAR was awarded the university status under the Gujarat Private Universities Amendment Act, 2011. The University commenced offering educational programs in 2014 and currently has around 550 students in several undergraduate, masters and research degree programs.

The Institute is well respected for its high quality of research nationally and internationally with the research being published in top international journals.

We are a young and growing research and innovation led university, allowing us for setting the agenda for innovative university education, research and

enterprise to contribute to the social and economic advancement of our state and the nation.

Increasingly complex problems demand ever innovative solutions, which can only be realized through multidisciplinary education, research and application, which are intertwined.

Acquisition of knowledge is one but important aspect of university education. Our focus is also on developing our students as confident and enterprising individuals alongside strong academic focus as we believe that confident and enterprising graduates will be the future leaders and change makers.

The university aspires to be the leading university in the private higher education sector nationally with strong international presence.

Our academic programs currently focus around the following areas

- Biological Sciences and Biotechnology
- Physical Sciences
- Engineering and Technology, and
- Business and Management

Each area has highly accomplished faculty members, most with experience at world leading institutions abroad, up-to-date research facilities, and research culture to allow for all round development of future scientists, engineers, managers and entrepreneurs. Our students therefore experience world class research-led teaching and a learning environment that is student friendly and

fosters confidence and enterprise through co-curricular and extra-curricular experience.

ABOUT PURI FOUNDATION FOR EDUCATION IN INDIA

The Puri Foundation for Education in India is a charitable trust registered in Ahmedabad, Gujarat. The trust is supported by the generous support from Chairman, Prof. Nathu Ram Puri, a noted NRI industrialist based in Nottingham, UK.

The Objectives of the trust include creating facilities for promotion of education and research. The trust supports and establishes schools, universities and research establishments in India and overseas. The trust also supports students from weaker sections of the society to provide them with equal opportunities to realize their potential including scholarships and financial support.







As part of its objectives, the trust set up the Indian Institute of Advanced Research at Koba, Gandhinagar. Honorable Shri Narendra Bhai Modi, then Chief Minister of Gujarat, laid the foundation stone of the Institute in 2003. The first Centre of Excellence, School of Biological Sciences and Biotechnology was set up in 2006. It was formally inaugurated by The President of India, H.E. Dr. APJ Abdul Kalam in April 2006. The Institute was accorded university









status in August 2011 by the Government of Gujarat under the Gujarat Private Universities Amendment Act, 2011.

The University continues to grow with the addition of a range of education and research programs in physical sciences, engineering, and business. The Foundation aspires that the University will become a model institution conducting education and research with real impact on our society, economy and the environment. In support of this, Professor Puri’s trust provides funding to institutions in the UK in order to establish joint research and education programs with the University in India to ensure that quality of education and research are internationally bench-marked.

In addition to funding educational initiatives, the Trust also contributes to a range of social development and disaster relief projects and programs.

THE GOVERNING BODY

	<p>Prof. Rao Bhamidimarri President, Institute of Advanced Research , Director (Education), Purico Group</p>	
	<p>Ms. Anju Sharma, IAS Principal Secretary, Higher and Technical Education, Govt. of Gujarat.</p>	 <p>Mr. Upendra Puri Trustee, The Puri Foundation for Education in India.</p>
	<p>Mr. Rakesh Krishan The Puri Foundation for Education in India.</p>	 <p>Prof. Ben Tucker. Founding Partner of Minerva LLP, London UK</p>
	<p>Dr RakeshVir Jasra Senior Vice President (R&D) Reliance Industries Limited, Vadodara</p>	 <p>Dr. Chiranjiv Patel MD of P.C Snehal group of companies, Times Men of the Year 2018</p>

 <p>a Prasad Faculty of Science, Engineering and Community University.</p>	 <p>Dr Bakulesh Khamar Senior Vice President (Research) Cadila Pharmaceuticals, Ahmedabad</p>
 <p>Shri Somenath Ghosh Former Director General National Research and Development Corporation</p>	 <p>kar til Institute of Management</p>
 <p>Dr Ruchi Singh Acting Provost Institute of Advanced Research</p>	 <p>Dr. Gurudatt Gaur Dean (Academic), Institute of Advanced Research</p>
 <p>Ms Tejal Shukla, Head, HR and Administration Institute of Advanced Research (In attendance)</p>	 <p>Mr Manoj Patel Acting Registrar and Head of Finance Institute of Advanced Research</p>

THE BOARD OF MANAGEMENT

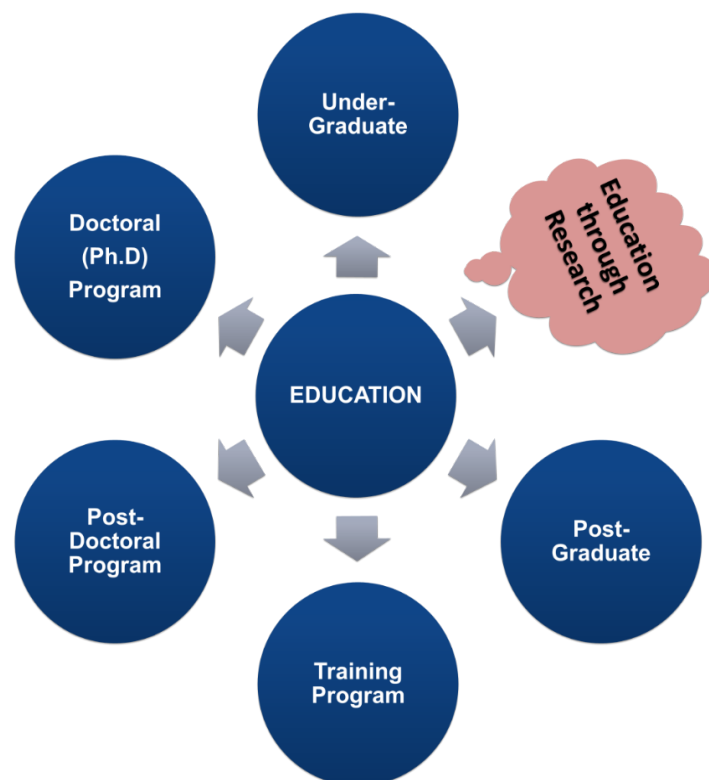
No.	Name	Affiliation
1	Chairperson Professor Rao Bhamidimarri	President
2	Member Secretary Mr. Manoj Patel	Acting Registrar
Members		
3	Dr. Ruchi Singh	Acting Provost, IAR, Gandhinagar
4	Prof. Rajendra Prasad	The Dean, Faculty of Science, Engineering and Technology, Amity University
5	Dr. Rakesh Vir Jasra	Senior Vice President (R&D) – Reliance Industries Limited, Vadodara
6	Dr. Chiranjiv Patel	MD of P.C Snehal group of companies.
7	Mr. H.M. Patel	Chairman, GIDC, Gandhinagar, Gujarat. (External Member)
8	Dr Daniel Penkar	Director, S.B.Patil Insti. of Management, Pune
9	Mr. Anupam Jalote	CEO at iCreate - International Centre for Entrepreneurship and Technology
10	Dr. Suvendu Das	Controller of Examination, IAR, Gandhinagar
12	Dr. Gurudatt Gaur	Dean (Academics), IAR, Gandhinagar.
13	Dr. Anand Tiwari	Dean (Research & Innovation), IAR, Gandhinagar.
14	Mr. Manoj Patel	Head of Finance, IAR, Gandhinagar
15	Ms. Tejal Shukla	Head (Admin & Marketing), IAR, Gandhinagar.

16	Student Member	IAR, Gandhinagar.
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EDUCATION PHILOSOPHY

Our Educational Philosophy

At IAR we are committed to enable every individual student to achieve their best. In today's rapidly developing knowledge environment, expansion of robotics and artificial intelligence in every sphere of human activity necessitate innovative education models. Alongside provision of high quality education in the selected academic programs, we are committed to fostering creativity and confidence in our students. We are adamant that creative and confident graduates will be the most successful in their career and in their lives generally. Our success is reflected by the success of our graduates and we are determined to ensure that our graduates will be most preferred by world leading employers and universities.



RESEARCH AND INNOVATION

Institute for Advanced Research (IAR), Gandhinagar strives for developing itself into a University of Innovation via excellence in Education and Research keeping in mind the current and future requirements of the country to match the high standard in sciences, engineering, technology and humanities. With innovations and best practices in both its curriculum and research, the Institute intends to gain reputation globally. The University challenges and supports its entire faculty and research staff to undertake world-class research and consultancy projects. In addition to offering formal Doctoral, Post-graduate and Undergraduate Programs, the University encourages its faculty and other academic staff to undertake sponsored research and consultancy projects in order to strengthen the research profile of the Institute. High-end research laboratories at the University provide an ideal atmosphere to conduct cutting-edge research. IAR as a University for Innovation emphasizes on

training and producing best of the researcher through the doctoral program. We have produced 16 PhDs and 28 students are currently enrolled with various departments. Our alumni are well-placed nationally and internationally in places like Yale University, The University of Texas Medical Branch at Galveston, The University of Oklahoma, Oregon state university, Institute of Life Science-Bhubneshwar, CCMB-Hyderabad etc. We have published more than 100+ publications in international peer-reviewed journals which include original research articles, reviews, books and book chapters.

IAR has been actively collaborating with other academic and research Institutes/Universities and has many eminent Scientist, Industrialist, Medical Practitioners and leaders on our board who advise us broadly regarding the strengthening of our research and academic programs. IAR realizes the need for moving beyond the University's research, publications and is engaged in promoting research and enterprise activities in other domains. We plan to extend a helping hand to enhance engagement with industries, government and academia to develop sustainable long-term interactions. We believe that the key to the socio-economic impact is via research driven innovation.

Institute of Advanced Research, since its inception, has been developing itself into a University of Excellence in Research and Innovation in order to help address the grand challenges of climate change, resource depletion and life-long health that the world confronts over the coming decades. Our focus is on multidisciplinary research and development in order to maximize the impact of our work on our economy, society and the environment.

The University challenges and supports all faculty and research staff to undertake world class research and knowledge transfer. Cutting edge research laboratories at the University provide an ideal atmosphere to conduct high quality research.

Key Research Groups:

Plasma and its applications:

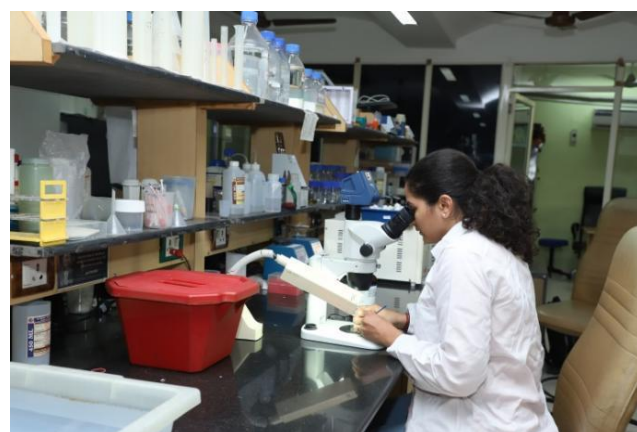
A research team led by Professor K.S. Ganesh Prasad, who is India's leading scientist in Plasma applications. This growing research team is conducting ground breaking research and development in partnership with industry on the industrial applications of Plasma including elevitation of dust particles, rotating electrode process for the production of micron sized spherical particles of a range of materials including metals, de-binding and sintering process, Plasma smelting and reduction of ferrous ores fines, and microwave plasma.



Frontiers of Biotechnology:

One of the important research areas at the IAR is Biotechnology, which is well established and is nationally and internationally recognized. This world class research is wide ranging and includes demonstration of mechanisms of neuro-inflammatory and neurodegenerative disorders led by Dr. Anand Tiwari. Another team of researcher is making significant progress in unlocking the secrets of cancer. This research focuses on cellular signaling pathways, apoptosis, inflammation

and their cross talk and role in cancer. This research is led by Dr. C. M. Pathak and Dr.Reena Agrawal-Rajput. IAR is has also well-established research in plant biotechnology. Our work in this area includes production of pharmaceuticals and neutraceuticals from plants and the role of chloroplasts and the reactive oxygen species generated by chloroplasts in the programmed plant cell death. Plant Biotechnology research is led by Dr. Budhi Sagar Tiwari.



Sensor Development:

We have a growing activity in sensors. An interesting development currently under leadership of Dr Alok Pandya, the team's work includes the design of nano-sensors to detect the risk of cardiovascular disorders, to detect toxic substances and plant viral diseases. Having identified as a priority area for research and innovation, the University is recruiting experienced engineering researchers for productisation



Computational Biology:

The IAR has been granted the status of Distributed Information Sub-Center by the Department of Biotechnology, Government of India for research work in emerging areas of computational biology. One of the prime focuses of Dr. Dhaval Patel's group is on identifying novel lead molecules against the pathogenic target and validates it through various biochemical and biophysical techniques.



Bioinformatics Laboratory

Engineering Innovations

Engineering research at IAR is multi-disciplinary and is industrial application oriented. Thermal Energy Storage is the main area of research in engineering is a key area of our engineering research and development. This work is led by Dr. Abhay Dinker. Another exciting program is on carbon nano tubes for energy storage devices

conducted by Dr. Ganesh Bajad, who also is working on waste plastics processing using pyrolysis process.



Novel Synthesis: Development of Novel peptide synthesis methodologies, peptide based ionic liquids, peptidomimetics, synthesis of squalamine such as antimicrobial agents.

Research Lead: Dr Satyendra Mishra and Dr Roli Mishra

Cryptography and Cyber Security: Intrusion detection, wireless sensor networks and Internet of Things (IoT).

Research Lead: Dr Sunil Gauham

AI and ML: Application of AI for litter detection, image analysis and ML for Covid-19 diagnosis.

Research Lead: Dr Sachin Sharma

Energy and Environmental Technologies: Thermal energy storage, energy from waste plastics, carbon dioxide sequestration. Development of novel technologies for

industrial effluents, landfill leachate characterization and treatment, Wastewater treatment process modelling and analysis.

Research Lead: Dr Abhay Dinker, Dr Ganjendra Vishwakarma and Dr Ganesh Bajad

Nanomaterials: Nanostructured materials and nanocomposites. Nanofibers and applications. Light emitting materials.

Research Lead: Dr Niranjana Patra



Enterprise Development: Economics of education, growth and development, role of innovation in MSME and SME development. Science and entrepreneurship.

Research Lead: Dr Sharad Kumar







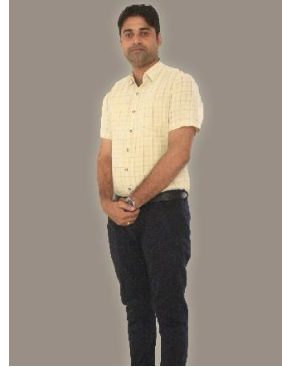

Developmental Economics: Operational aspects of MSMEs and their impact on financial viability, role of industry associations on the development of MSMEs.







Research Lead: Dr Radha Tiwari

Our Faculty

<p>Prof K S Ganesh Prasad Professor PhD: Gujarat University Post Doc: IPR, Gujarat Marseillie, France Research Interests: Industrial Plasma Applications, Industrial Electronics, Engineering Product Development</p>		<p>Dr Budhi Sagar Tiwari Associate Professor PhD: Banaras Hindu University Post Doc: Bose Institute, Kolkata; HUJI, Israel RU, New Jersey; UNL, USA; SLU, Sweden Virginia Tech, SA Research Interests: Photosynthesis PCD & Anhydrobiosis</p>	
<p>Dr Anand K Associate Professor PhD: Banaras University Post Doc: Indian Toxiology UP Research Interests: Drosophila Neurobiology Genetics, Dev. Biology</p>	 <p>Tiwari, Hindu Institute of Research,</p>	<p>Dr Reena Agrawal Associate Professor PhD: NCCS – Pune Post Doc: B V Pate NIPER, Ahmedabad Research Interests: Immunology and Medicine</p>	 <p>dabad Ahmedabad Regenratic</p>
<p>Dr Gurudatt Assistant PhD: IPR Post Doc: IPR, Research Gravitational Astronomy, Physics</p>	 <p>Gaur Professor Gujarat Interests: Wave , Plasma</p>	<p>Dr Priti Desai Assistant PhD: Bhavnagar Post Doc: NIPER, Ahmedabad Research Interests: & Immunity, Development, Biotherapeutics</p>	 <p>Professor University Infection Vaccine</p>
<p>Dr Abhay Dinker Assistant Professor PhD: MNIT Research Interests: Energy Storage, Simulation and Modelling Green Energy</p>		<p>Dr Jay Joshi Assistant Professor PhD: Sardar Patel University Research Interests: Finance Accounting, General Management, Law</p>	

<p>Dr Ganesh Bajad Assistant Professor PhD: VNIT Research Interests: Synthesis of Nanomaterial and polymer nano composits.</p>		<p>Dr Sharad Kumar Assistant Professor PhD: IIT Kharagpur Research Interests: Entrepreneurship, Healthcare Management</p>	
<p>Dr Roli Mishra Assistant Professor PhD: Allahabad University Post Doc:IISC Banglore University of Minnesota, USA, IIT, Delhi Research Interests: Novel Synthetic Methodologies, Ionic Liquid</p>		<p>Dr Radha Tiwari Assistant Professor PhD: CSJM University Research Interests: Developmental Economics, Endogenous factor analysis.</p>	
<p>Dr Ritu Sahani Assistant Professor PhD: Jaypee Institute of Infor Research Interests: Applications of Fixed Point theorems, Application of Fuzzy Set theory, Solid Mechanics Problem, Fractals and Chaos</p>		<p>Dr Dhara Rathod Assistant Professor PhD: Bhavnagar University Research Interests: Psycholinguistic Feminism Partition Fiction</p>	
<p>Dr Alok Pandya Assistant Professor PhD: Gujarat University Post Doc:Ahmedabad Univers Research Interests: Nano Chemistry, Nano Biotechnology, Diagnostics Kit Development</p>		<p>Dr Ravi Prakash Chandra Assistant ProfessorPhD: Gujarat University Research Interests: Supra-molecular Chemistrty, Ion Sensing Device, Liquid Crystals</p>	

<p>Dr Satyendra Mishra Assistant Professor PhD: Allahabad University Post Doc: IISC, Bangalore, University of Connecticut, US Minnesota, USA, IIT, Delhi Research Interests: Organic Synthesis, Medicinal Chemistry</p>		<p>Dr Sachin Sharma Assistant Professor PhD: Gujarat Technology University Research Interests: Image Processing, Artificial Intelligence NLP Computer Vision</p>	
<p>Dr Dhara Patel Assistant Professor PhD: Gujarat University Post Doc: Gujarat University, A Research Interests: Agricultural Microbiology, Applied Microbiology</p>		<p>Dr G S Vishwakarma Assistant Professor PhD: Central University of Punjab Research Interests: Wasteater Treatment, Solid Waste Treatment, Water Quality Monitoring, Bioremediation</p>	
<p>Dr Dhaval Patel Assistant Professor PhD: M S University Research Interests: Protein structure and function, Computational Biology, Structural Biology, Bioinformatics</p>		<p>Dr Sudhir Bhatt Assistant Professor PhD: University of Pierre and Ma Post Doc: Old Dominion Univers Research Interests: Experimental Plasma Physics, Plasma Medicine Coating and Smart Surfaces, Condensend Matter Physics</p>	
<p>Dr Vivek Anand Assistant Professor PhD: IIT Madras Research Interests: Synthesis of conjugated polymers and small molecules, Study of white light emission and Aggregation – induced emission of organic molecules.</p>		<p>Dr Suwendu Das Assistant Professor PhD: JNU, Delhi Post Doc: Centre for Cellular and Molecular Biology, Hyderabad, Mount Sinai School of Medicine, USA, University of Helsinki,Finland Research Interests: Angiogenesis, Tumor Merastasis</p>	

<p>Dr Deepalakshmi Assistant Professor PhD: Research Interests: BioFuels, NanoTechnology</p>		<p>Dr Anjali Mishra Assistant Professor PhD:Dr B R Ambedkar University, Agra Research Interests: BioFuel, Method Validation for drugs, Pesticides, formulation and residue analysis</p>	
<p>Dr Niranjan Patra Assistant Professor PhD: University of Genova Post Doc: Imperial College, University of Wyoming, USA, Friedrich-Alexander-Universität Erlangen- Germany, Technical University of Liberec. Czech Republic. Research Interests: Additive manufacturing (3D Printing) of materials</p>		<p>Dr Ishanki Bhardwaj Assistant Professor PhD: IIT Delhi Research Interests:: Supramolecular Chemistry, Peptidomimetics</p>	
<p>Dr Ruchi Singh Assistant Professor PhD: Purvanchal University, Jaunpur Research Interests: Bioinformatics, Proteomics</p>		<p>Dr Isha Talati Assistant Professor PhD: PDPU, Gujarat Research Interests: Optimization Techniques, Inventory Management, Ship route optimization in ice field</p>	
<p>Dr Sunil Gautam Assistant Professor PhD: ISM Dhanbad, Jharkhand Research Interests: Intrusion Detection Systems Wireless Sensor Network Internet of Things</p>		<p>Mr. R C Goswami Assistant Professor PhD: Gujarat University (in progress) Research Interests: Internet of Things Wireless Sensor Network, Mobile Adhoc Network</p>	

<p>Dr Arvind Saxena Assistant Professor PhD: PRL, Ahmedabad Post Doc:PRL, Ahmedabad Oulu University, Finland University of Latvia, Institute of Physics, Latvia Max-Planck Centre for Attosecond Science, South Korea, IPR, Gandhinagar Research Interests: Experimental Atomics and Plasma Physics</p>		<p>Dr Mangilal Choudhary Assistant Professor PhD: IPR, Gujarat Post Doc: JLU, Germany Research Interests: Experimental Plasma Physics, Experimental Dusty Plasma, Low Temperature Plasma</p>	
<p>Dr Tvarit Patel Assistant Professor PhD: IIT Gandhinagar Research Interests: Min Film Solar Cell, Polymer Composite, Nano Materials</p>		<p>Dr Rajesh Handa Assistant Professor PhD: Gujarat Technical University Research Interests: Economic Policies</p>	
<p>Dr Ankit Oza Assistant Professor PhD: PDPU, Gujarat Research Interests: Micro Machining Non-Traditional Machining, Hybrid Machining Process</p>		<p>Dr Ankita Joshi Assistant Professor PhD:DAVV, Indore Research Interests: Students Migration for higher education, Internal and International Migration, Rural-Urban youth migration related studies</p>	
<p>Dr Sujata Behera Assistant Professor PhD: Nirma University, Gujarat Research Interests: Valuation Models and Other Accounting Performance Issues</p>		<p>Dr Ujjwal Das Assistant Professor PhD:Central University of Assam Post Doc: EDI, Ahmedabad Research Interests: Finance and Accounting</p>	

<p>Dr Neeru Singh Assistant Professor PhD: Delhi University Post Doc:IIT Gandhinagar Research Interests: Cancer Biology, Cell Biology, Cancer Therapeutics</p>		<p>Dr Arpit Shukla Assistant Professor PhD: Gujarat University Research Interests: Agricultural Microbiology</p>	
<p>Dr Sudhakar Ingole Assistant Professor PhD: Central University of Gujarat, Gandhinagar Research Interests: Culture Language, Literature</p>		<p>Dr Rachana Gupta Assistant Professor PhD: MNIT, Jaipur Research Interests: Image Processing, Machine Learning, Signal Processing</p>	
<p>Dr Vishal Vyas PhD: IIT, Mumbai Research Interests: Non-Linear Vibration of Structure</p>		<p>Dr Keyur Patel PhD: IIT-RAM, Research Interests: Control & Robotics, EV Design, Embedded System</p>	
<p>Dr Sumit Kumar PhD: Central University of Rajasthan Research Interests: Product Control Process Central Bayesian</p>			

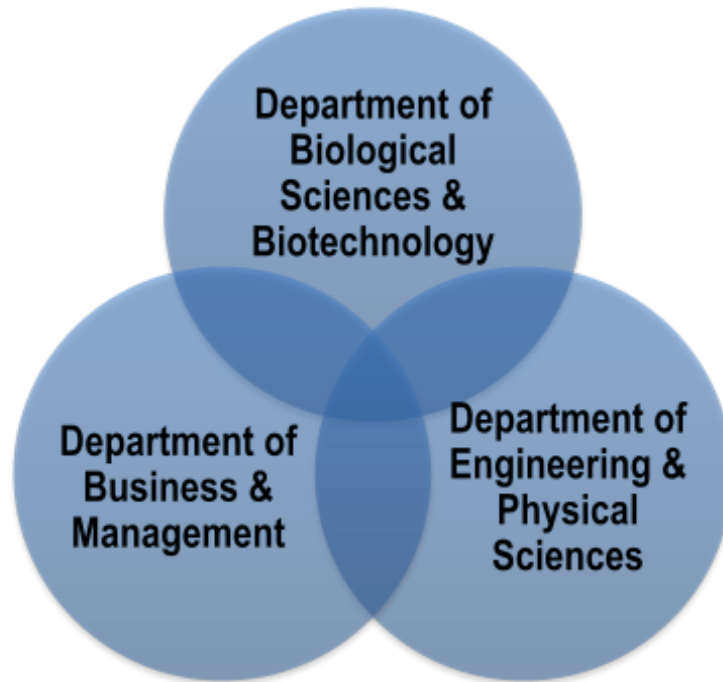
Honorary Professors

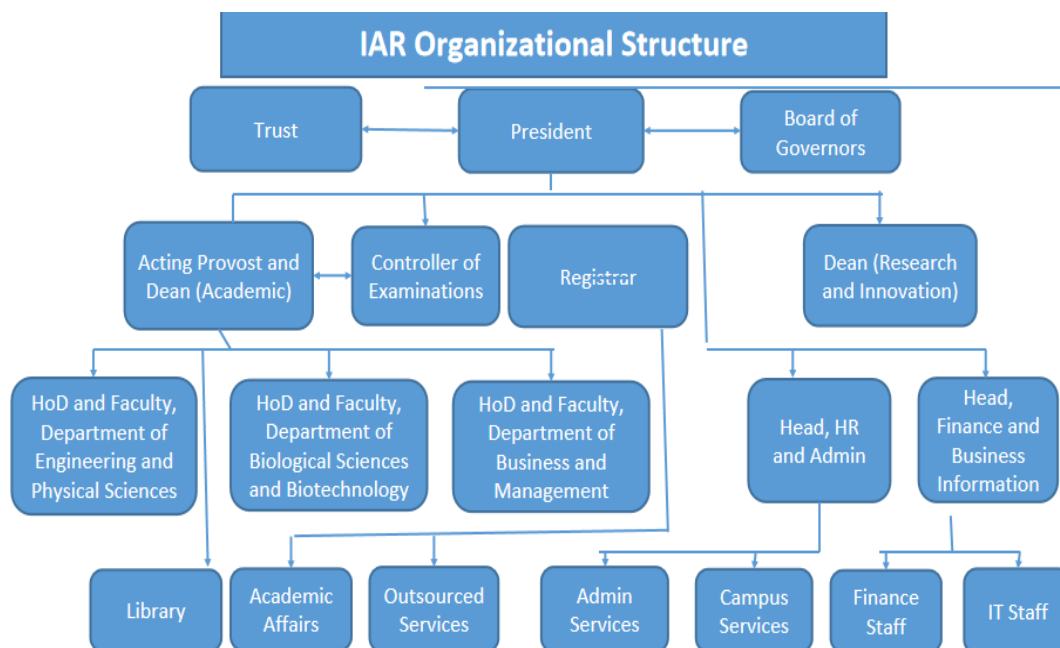
No.	Faculty Name	Affiliation
1	Dr. Robin Mackenzie	Edinburgh Acoustical Company Ltd, Edinburgh, UK
2	Dr. Raksha Vir Jasra	Senior Vice President (R&D) – Reliance Industries Limited, Vadodara
3	Dr. Andre Krol	International Engineering Consultant , Spain

Visiting Professors

No.	Faculty Name	Affiliation
1	Prof. Kiran Tota-Mahraj	Aston University, Birmingham, UK
2	Professor Satya Shah	Bolton University, UK

ACADEMIC DEPARTMENTS





ACADEMIC PROGRAMS

The University offers Undergraduate, Postgraduate and PhD programs in Sciences, Engineering, Management and Economics run by our academic departments:

- **Biological Science and Biotechnology**
- **Engineering and Physical Sciences**
- **Business and Management**

At IAR, we are committed to enable every individual student to achieve their best. We are determined to ensure that our graduates will be the most preferred by world leading employers and universities. To achieve that we have a provision of high-quality education and research, faculty with extensive academic and industrial

experience, good student/faculty ratio, co-curricular and extracurricular activities, frequent interactions with leading academicians and industrialists, placement and innovation support, internship and research opportunities, among others.

Undergraduate courses

There is a good reason why our programs are highly sought after both by high achieving students and our graduates most preferred by the employers and other higher education institutions. The Institute of Advanced Research is a nationally recognized university for world-class research in selected areas and with small class sizes, education is well rounded and personalized.

Whether you are seeking high-quality education to further your knowledge or seeking professionally focused and employment-oriented studies, IAR has a range of courses and programs in Engineering, Sciences and Business Administration & Management. Our range of courses are designed to develop in-depth knowledge in a specialist field of study as well as foster skills that are valuable in an employment context, such as creativity, effective communication, commercial awareness, analytical and critical thinking. Some of our courses are professional in nature while others are oriented more towards developing research skills and furthering an academic or research career.

Bachelor of Technology (B. Tech) - 4 Years / 8 Semesters

B.Tech. programs are professionally focused and job oriented. The programs are a blend of theory and practice based education and skill development. Alongside gaining knowledge in their chosen subjects, we provide students with a range of opportunities for their development as professional engineers, with additional

certificated training, industry visits, interaction with industry experts, self-managed projects and other co-curricular activities.

In addition, to the engineering subject knowledge, B.Tech graduates will gain the following key skills that make them versatile and enable them to take on jobs beyond their specialization:

- Analytical ability
- Logical thinking
- Teamwork
- Attention to detail
- Value of time and money

The Bachelor of Technology (BTech) programs are currently offered in the following disciplines:

- Computer Engineering
- Information Technology
- Chemical Engineering
- Biotechnology
- Mechanical Engineering
- Electrical & Electronic Engineering

Bachelor of Science (B. Sc.) – 3 Years / 6 Semesters

Bachelor of Science or BSc programs are most popular for those who are interested in careers in scientific fields and for those who aspire to pursue higher studies at masters and PhD level.

The 3 Year Degree Program comprises of six semesters with 120 to 140 Credits and consists of additional certificated training, industry visits, theoretical and practical learning to prepare the graduates for jobs in industry, business and government or for higher studies in India or abroad.

The Bachelor of Science (BSc) programs are currently offered in the following disciplines:

- B.Sc. (Chemistry)
- B.Sc. (Physics)
- B.Sc. (Mathematics)
- B.Sc. (Computer Science)
- B.Sc. (Physical Sciences)
- B.Sc. Honours (Biotechnology)
- B.Sc. Honours (Microbiology)
- B.Sc. (Life Sciences)



Bachelor of Business Administration (B.B.A.) – 3 Years / 6 Semesters

BBA is one of the most popular undergraduate programs of study in the specialized area of the business administration. Graduates gain knowledge of a broad range of subjects relevant to Business Administration giving them the knowledge and skills necessary for a multiplicity of jobs in business management and business administration.

The following BBA programs are available:

- Human Resources
- Finance
- Marketing
- Entrepreneurship
- International Business
- Business Analytics
- Project Management



Postgraduate Courses

Well, embedded research culture makes the Institute of Advanced Research (IAR) a leading university for high-quality postgraduate education. In this rapidly advancing knowledge environment, postgraduate education has become important. Whether it is to analyze complex technical problems or to operate effectively today's globalized business environment, advanced knowledge is increasingly sought by employers.

At Masters level, students gain advanced knowledge in their chosen field of study as well as it interlinks with related subjects. This is particularly important as it is at the discipline interfaces that exciting new developments in sciences, technology and business emerge. Our educational philosophy prepares masters graduates for exciting careers.

Masters programs typically are of two years or four Semesters duration with 80 academic credits including 20 credits for project work.

Master of Science (MSc) - 2 Years /4 Semesters

M.Sc. programs offer logical progression pathways for B.Sc. graduates to specialize in their chosen area of interest and create pathways for senior jobs in industry or opportunities for research careers directly or following further study for Ph D.

The following programs are available for M.Sc. at IAR:

- Biotechnology
- Life Sciences
- Microbiology
- Physics
- Applied Physics
- Chemistry (Organic)
- Chemistry (Analytical)
- Chemistry (Industrial)
- Material Science
- Data Science





Master of Business Administration (MBA) - 2 Years /4 Semesters

MBA program is a versatile higher degree that leads to senior management jobs. Unlike most other masters programs, MBA is accessible to undergraduate degrees from any discipline. Students will have the opportunity to gain an educational

foundation in business principles as well as their application through a combination of classroom activities, seminars, internships and company visits.

The following MBA programs are available:

- Human Resources
- Finance
- Marketing
- Entrepreneurship
- Business Analytics
- Project Management
- Banking & Finance

Doctoral Program

The education and training of doctoral students are one of the most important aspects of the Institute of Advanced Research. We offer PhD programs in all disciplines across in sciences, engineering and business.

A range of financial support is available to undertake PhD study at the Institute of Advanced Research. In addition to the financial support from the Institute of Advanced Research, scholarships are available from the UGC, CSIR, ICMR, MHRD, DST, SERB and DBT.



ACADEMIC INFRASTRUCTURE

Teaching Laboratories

IAR is equipped with a number of dedicated teaching laboratories along side research laboratories for the delivery of academic programs. There are two laboratories for each of the four departments for students UG & PG programs. The curriculum at IAR is rich hands on practical learning. In order to facilitate this, laboratories and workshops are equipped to accommodate learning in small groups of students. All academic programs include substantial dissertation projects that require laboratory work or work in industry. In addition to written project reports, each student is given the opportunity to present their work orally to selected panels of faculty members.



Postgraduate Chemistry Laboratory



Physics Laboratory

Computer Laboratories

IAR have two well-equipped computer laboratory with over 200 computers with latest computing resources including a supercomputer facility.



Engineering Laboratories and Workshops

IAR have well-equipped engineering workshop facilities as well as engineering laboratories for engineering courses.



Electronics and Engineering Product Development Laboratory



Engineering Workshop 1

Fluid Flow Experiment

The Library

At present there are around 2000 books, 30 journals/magazines, 12 CDs/DVDs, 100+ journals (open source), 66+ Project Reports available in the library. 251 books were added In the current academic session. The library also purchased membership of IIT Gandhinagar Library, and subscribes to National Digital Library and World eBook Library.



Team Learning Space in the Library



Reference Collections

Extra and Co-curricular activities

The University organized various popular and invited talks to bring the concepts from cutting edge research to students and the larger community; to excite students about science and explore the opportunities available. Some of the talks are listed below.

- Patterns in Nature by Prof. Rajaraman Ganesh (Institute for Plasma Research, Gandhinagar) on September 20, 2018.
- Testing Einstein with Black Holes and Neutron Stars by Prof. Sukanta Bose (Inter University Centre for Astronomy and Astrophysics, Pune) on February 14, 2019.
- How not to work at Google by Prof. Manish Gupta (DA-IICT, Gandhinagar) on November 16, 2018.
- Introduction to the field of Engineering by Prof. Kiran Parmar (Adani Institute of Infrastructure Engineering, Ahmedabad) on September 21, 2018.

- Chemical Industry and Educational Institutes: Mutual Expectations by Mr. Digambar Joshi (General Manager, Meghmani Organic Ltd, Ahmedabad) on August 31, 2018.
- Opportunities in Chemical Sciences for the Sustenance of Present Civilization by Dr. Raksh Vir Jasra (Senior Vice President of Reliance Industries) on October 16, 2018.
- Government Policies and Start-Up Ecosystem Prevailing in India by Mr. Mayank Patel, CEO, Entrepreneurship Development Institute on 19th April 2019.
- Internet of Things (IOT) by Mr. Niraj Shah, CEO, Arihant Satiade on 7th September 2018.

GO GREEN CYCLOTHON

IAR organized a Go Green Cyclothon event (Cycling event), to celebrate the International Day for Preservation of the Ozone Layer on 16 September, 2018 at IAR campus, Gandhinagar. Around 320 people including students, doctors, professors, businessmen and people from various organizations participated in the event.





SPORTS WEEK

IAR organized its 1st Annual Sport Competition “SKYLARK” for the University students, faculty members and non-teaching staff from 26th January, 2019 to 1st February, 2019.



Tour: IAR arranged a tour to Jaisalmer, Ramdevda and Jodhpur (Rajasthan) coordinated by Mr. Chirag Makwana and Dr. Cliff Kant for university students on

February 1-3, 2019. Total 53 students, 3 faculty members and 1 admin staff joined the tour.



ACADEMIC OUTREACH

IAR is actively engaged in various academic outreach programs for students personality development, societal outreach and citizenship.





INFRASTRUCTURE AND FACILITIES

Equipments available for research and education

- Fluorescence microscope
- Confocal Microscope
- High Computing Cluster system
- Real time PCR
- Multiplex PCR
- Gel documentation system
- Multimode plate reader
- Anemometer/CO₂ analyzer
- Shaker incubator
- Acta prime protein purification
- Fluorimeter
- milliQ water plant
- Refrigerated centrifuge
- Ultracentrifuge
- Pulse-field Gel Electrophoresis
- Gas chromatography

- UV- Vis Spectrophotometer
- Deep freezers
- CO₂ incubators
- -80 degrees centigrade freezer
- Electrophoresis chamber
- Electroporator gene pulser
- ELISA plate reader
- Eporator
- Ice Machine
- Lyophilizer
- Microscope
(Inverted Phase contrast)
- Pyrosequencing
- Shell and Tube Heat exchanger
- Distillation Column
- Bernoulli's Apparatus
- Automated cell counter
- Binocular microscopes
- Biosafety cabinet (6 no.)
- HPLC
- Flow Cytometer
- Centrifuges
- Cell Sonicator
- Spectro-Fluorimeter
- Ion Exchange Water Plant
- Leunometer
- Microscope Inverted Fluorescence
- Spectrophotometer (Nanodrop)
- Falling Film Evaporator
- Fluid Mechanics
- Hot Plate and Thermal Conductivity Meter
- VLE Apparatus
- Venturi Meter
- Absorption Column
- Multiprocess Apparatus
- Sieve Shaker
- Lathe Machines
- Hardness Tester
- Hardness Tester
- Plasma Generator
- Continuous Reactors in Series
- Fluid Flow in Pipes
- Liquid-Liquid Extraction
- Control Valve Experimental Rig
- Ball Mill
- Furnace
- Universal Testing Machine
- Welding Machine
- Pump Characteristics Rig

RESEARCH PROGRAMS, OUTPUTS AND OUTCOMES

New Project Proposals Submitted

Sr. No.	Grant Title	PI /CO-PI	Proposed Budget (In Lakh)	Funding Agency	Department
1)	Study and analysis of MDC1 as biomarker in triple-negative breast cancer cells and as potential molecular target in combination therapy with PARP inhibitors	Dr. Neeru Singh	33.62	SERB, New Delhi	DBSB
2)	Structural and dynamic underpinnings of multi-protein assemblies – implications for	Dr. Reena Rajput (Co- PI); Dr. Manish Dutt	9.0	SERB, CRG Scheme, New Delhi	DBSB

	disrupting inflammasomes by natural products	(PI)			
3)	Repositioning Doxycycline as Anti-Cancer Therapy and Exploring its Synergy with extracellular ATP manipulation in Breast Cancer: Pre-Clinical and Early Clinical Exploration.	Reena Agrawal-Rajput (PI); Co-PI: Dr. Nivsarkar, Dr. Dave, Dr. Desai	52.35	GSBTM, Gujarat	DBSB
4)	Characterization of cellular Nitro-Oxidative environment under Salinity Stress that hampers Productivity and promotes Programmed Cell Death in Pea (<i>Pisum sativum</i>)	Dr. Budhi Sagar Tiwari	41.61	GUJCOST, Gujarat	DBSB
5)	Study of the Role of mitochondria generated Reactive Oxygen Species on neuronal function in Alzheimer's diseases and amelioration of AD pathologies using Vitamin E and Coenzyme Q10	Dr. Anand K. Tiwari	41.81	GUJCOST, Gujarat	DBSB
6)	Using Point-of-Care Ultrasound Images and AI for Faster, Safer and Accurate Diagnosis of COVID-19	Dr. Sachin Sharma	9.5	NRDC	DEPS
6)	Development and testing of thermoelectric generators using phase change materials for low voltage applications	Dr. Abhay Dinker (PI); Dr. Madhu Agarwal (Co-PI)	27.86	SERB, CRG Scheme, New Delhi	DEPS
8)	Development and Scaling of Graphene/Nano-copper Infused High Antiviral (Corona) Nano fabric as coronavirus protective equipment.	Dr. Alok Pandya (PI) & Mr. Neel Panchal (Co-PI)	12.72	DST, New Delhi	DEPS
9)	Development of an aptamer-based rapid point of	Dr. Alok Pandya (Co-PI)	11.1	GSBTM, Gujarat	DEPS

	care diagnostic test for novel coronavirus	& Dr. Rakesh Rawal (PI)			
10)	A PESTEL Analysis on textile Industries in Gujarat	Dr. Haresh Narayan Pandey (PI); Dr. Radha Tiwari (Co-PI)	27.60	Indian Council of Social Science Research (ICSSR)	DBM
11)	Pre-Project Proposal: "Process Improvisation in CO2 Capture Pilot Plant, energy integrated, and Intensified demonstration with slipstream electrochemical Conversion for electricity generation. (IndiaCO2-Phase-II) "	Prof B. Rao & Dr. Abhay Dinaker In Collaboration with PDPU	Pre-Project Proposal	Research Council of Norway LYSAKER, Norway	DEPS

DST: Department of Sciences & Technology, New Delhi; SERB: Scientific Extramural Research Board, New Delhi; ICMR: Indian Council of Medical Research, New Delhi; ICSSR: Indian Council of Social Science Research; GSBTM: Gujarat State Biotechnology Mission, Gujarat

THRIVING RESEARCH ENVIRONMENT

Ongoing Research Grants:

Sr. No.	Title of Grant	Faculty Name	Role (PI/Co-PI)	Award Year	Funding Agency	Grant (Lakh)
Department of Biological Sciences & Biotechnology						
1)	Involvement of chloroplasts in oxidative stress-induced Programmed Cell Death (PCD): characterization of cytochrome f release from chloroplast and its	Dr. B.S. Tiwari	PI	2018	SERB, New Delhi	30

	interacting partners involved in cell death process					
2)	Study of the role of Appl & Tau gene during mitochondrial axonal transport in Drosophila model of Alzheimer's disease	Dr. A.K. Tiwari	PI	2018	SERB, New Delhi	44.42
3)	Evaluation of immunogenicity and protective efficacy of bivalent vaccine candidate against Shigella and Salmonella using food-grade bacteria L. lactis.	Dr. Priti Desai	PI	2018	SERB, New Delhi	27.2
4)	Development of Environmentally and Economically Sustainable Composite Solution for Municipal Solid Waste Management	Dr. GS Vishwakarma	PI	2019	GSBTM	9.69
Department of Engineering & Physical Sciences						
1)	Development of plasma rotating electrode process to obtain high purity spherical metallic powders.	Dr. Ganesh Prasad	PI		BRNS	32.58
2)	3D ImmunoStrip for detection of Potato infection.	Dr. Alok Pandya	PI	2019	GSBTM	30.1

Inter-departmental Research (Inter-disciplinary)

Sr. No.	Title of Grant	Faculty Name	Role (PI/C o-PI)	Award Year	Funding Agency	Amount Sanctioned (Lakh)
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1)	Design and development of bio-inspired multi-layered membrane for Industrial wastewater treatment”	Dr. Alok Pandya/Dr.D haval/ D.Gjendra Vishwakarma	PI/Co-PI/ Co-PI	2020	DST, New Delhi	38.41
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External Collaborative Grants

Sr. No.	Title of Grant	Faculty Name	Role (PI/Co-PI)	Award Year	Funding Agency	Amount Sanctioned (Lakh)
1)	cFMS kinase blockade for Macrophage depletion as a potential immunotherapeutic strategy for antibiotic induced Immunosuppression.	Dr. Reena Rajput (PI); Dr. Manish Nivsarkar (Co-PI)	PI	2020	SERB, New Delhi	27.44

Research Grants from Non-Governmental Agencies

Sr. No.	Name of the Project/ Endowments, Chairs	PI	Department	Year	Funds provided (lakhs)	Duration (Month)	Funding Agency
1)	Demonstration of microwave plasma	Dr. K.S. Ganesh Prasad	DEPS	2019	2	3	SAMATWA Jewels
2)	Reduction of ferromanganese fines	Dr. K .S. Ganesh Prasad	DEPS	2019	79+GST	24	TATA STEELS

Funded Projects Completed (2020)

Sr. No.	Title of Grant	Faculty Name	(PI)	Funding Agency	Amount Sanctioned (Lakh)
1)	Deciphering the role of FADD and HMGB1 in subset to the regulation of NLRP3 inflammasome and cell proliferation	Dr. C.M. Pathak	PI	SERB, New Delhi	34.9
2)	Unravelling the Molecular Mechanism of Berberine against Neuroblastoma Immunosuppressive Tumor-microenvironment	Dr. R.A. Rajput	PI	GSBTM	21.91

Infrastructure Grants

- **FIST Grant to Department of Biological Sciences & Technology (2020)**

Department of Biological Sciences & Biotechnology, Institute of Advanced Research Gandhinagar has received the “Fund (69 lakh) for Improvement of S&T Infrastructure (FIST)” from the Department of Science & Technology (DST), Government of India.

- **Supercomputer Facility (2020)**

IAR has received a Supercomputer facility supported by the Gujarat Council of Science and Technology (GUJCOST), Gujarat.

Ph.D. Students

Department of Biological Science and Biotechnology			
Sr. No.	Nam of Ph.D. Scholar	Reg. No.	Supervisor
1	Komal Rajendrakumar Panchal (Submitted)	UIAR/10300	Dr. Anand K. Tiwari
2	Ms. Bhatt Vidhiben Dhavalkumar	UIAR/11080	Dr. Anand K. Tiwari
3	Ms. Priyadarshi Khushbu Jashvantbhai (Submitted)	UIAR/10596	Dr. Chandramani Pathak
4	Ms. Foram Vaidya (Submitted)	UAIR/10599	Dr. Chandramani Pathak
5	Ms. Pooja Prashant Doshi	UIAR/11106	Dr. Chandramani Pathak
6	Ms. Bhatt Manasi Ashokbhai	UIAR/10811	Dr. Budhi Sagar Tiwari
7	Ms. Rohi Tusharkumar Bhatt	UAIR/11073	Dr. Budhi Sagar Tiwari
8	Mr. Vipin Tomar	UIAR/11078	Dr. Budhi Sagar Tiwari
9	Ms. Shah Dhruvi Urmilbhai	UIAR/10812	Dr. Reena Rajput
10	Mr. Naveen C R	UAIR/10839	Dr. Reena Rajput
11	Mr. Parameswar Dalai	UIAR/11356	Dr. Reena Rajput
12	Mr. Shivani Yadav	UIAR/11368	Dr. Reena Rajput
13	Ms. Hima Vatsal Vora	IAR/11590	Dr. Reena Rajput
14	Mr. Sachinkumar Amrutlal Vaidh	IAR/11591	Dr. Gajendra Singh
15	Ms. Anushree Ashok Kamath	IAR/11603	Dr. Dhara Patel
16	Mr. Bhargav Prakashchandra Pandya	IAR/11605	Dr. Priti Desai
17	Ms. Divyaben Kamleshbhai Tarwadi	IAR/11607	Dr. Priti Desai
18	Mr. Rajkishansinh Raghuvirsinh Thakor	IAR/11581	Dr. Dhaval Patel

19	Ms. Pandya Kavya Ajit*	Pending	To be determined
20	Ms. Dharni Mukesh kumar Parekh*	Pending	To be determined
21	Ms. Sagarika Saha*	Pending	To be determined

Business & Management

Sr. No.	Nam of PhD Scholar	Reg. No.	Supervisor
1	Ms. Kushwaha Manisha	UIAR/10813	Dr. Radha Tiwari
2	Mr. Thakkar Himanshu Dahyabhai	UIAR/10814	Dr. Radha Tiwari
3	Mr. Mithileshkumar Hiteshwar Singh	IAR/11588	Prof. Rao Bhamidimarri
4	Mr. Priteshkumar Satishbhai Patil	IAR/11589	Prof. Rao Bhamidimarri
5	Mr. Rupesh Maheshprasad Kumar	IAR/11602	Prof. Rao Bhamidimarri
6	Mr. Aarsheykumar Pankajkumar Shah	IAR/11604	Prof. Rao Bhamidimarri
7	Mrs. Madhubanti Joydutta Dutta	IAR/11617	Prof. Rao Bhamidimarri
8	Mr. Kalpesh Vitlani*	Pending	To be determined
9	Mr. Jay Pandya*	Pending	To be determined
10	Mr. Amit Rupela*	Pending	To be determined

Engineering and Physical Sciences

	Nam of Ph.D. Scholar	Reg. No.	Supervisor
1	Mr. Snehkrishn Aniruddha Chaubey	UIAR/10809	Dr. Roli Mishra
2	Mr. Verma Chetan	UAIR/10817	Dr. Gurudatt Gaur
3	Chandani Halpani	UIAR/11382	Dr. Satyendra Mishra
4	Sejal Patel	UIAR/11807	Dr. Satyendra Mishra
5	Patel Nidhi Miteshbhai	UIAR/11381	Dr Ganesh Prasad
6	Mr. Dipakkumar Amrutbhai Bariya	IAR/11571	Dr. Satyendra Mishra
7	Mr. Yash Bhagawatprasad Barot	IAR/11572	Dr. Roli Mishra
8	Mr. Azriel Anthony Henry	IAR/11593	Dr. Sunil Gautam
9	Mrs. Divya Dileep	IAR/11599	Dr. Gurudatt Gaur

10	Ms. Shubhangi Rajendrarao Deshmukh	IAR/11601	Prof. Rao Bhamidimarri
11	Ms. Nidhi Vijay Verma	IAR/11606	Dr. Alok Pandya
12	Ms. Rani Vinod Gupta	IAR/11653	Dr. Ganesh Bajad
13	Ms. Sushmita Anilkumar Mishra	IAR/11573	Dr. Gurudatt Gaur
14	Mr. Mukesh Choubisa*	Pending	To be determined
15	Ms. Nidhi Dubey*	Pending	To be determined
16	Ms. Ketaki Anandkumar Pattani*	Pending	To be determined
17	Mr. Prabhudutta Ray*	Pending	To be determined
18	Mr. Parmar Rahul Valabhai*	Pending	To be determined

* Newly joined Ph.D. scholar in 2020 (11 students [3 DBSB; DBM 3; DEPS: 5])

Total No. of Ph.D. students: 21 (DBSB)+10 (DBM)+18 (DEPS)=49

PhD Theses Submitted

Following students have submitted their theses:

Sr. No.	Name of Student	Registration No.	Supervisor	Title of Thesis
1)	Komal Rajendrakumar Panchal	UIAR/10300	Dr. Anand K. Tiwari	Study of the Role of Miro, mitochondrial outer membrane protein in Drosophila model of Alzheimer's disease
2)	Ms. Priyadarshi Khushbu Jashvantbhai	UIAR/10596	Dr. Chandramani Pathak	Synthesis, Characterization and Biological evaluation of surface modified PAMAM dendrimer with Gallic acid for Anti-proliferative effects in cancer cells

3)	Ms. Foram Vaidya	UAIR/10599	Dr. Chandramani Pathak	Biological evaluation of Nanoformulated Anti-cancer agents: A Multifaceted approach to improve bioavailability, multi drug resistance and apoptotic cell death
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Ph.D. Awarded:

Sr. No.	Registration Number	Name of Student	Authentication No.	Doctorate in	Thesis Title
1	10308	VINITA MISHRA	DC201910308100	Biotechnology	“Computational drug discovery for designing novel hTLR4 antagonist and their biological evaluation as anti-inflammatory/anti-proliferative agent”
2	10628	BHUMI PATEL	DC202010628100	Biotechnology	“Structural and Functional Characterization of Metabolic Pathway Proteins from Leishmania donovani as potential drug targets”

RESEARCH PUBLICATIONS (2019-20)

2019					
Sr. No.	Publication Type	DBSB	DEPS	DBM	Total
1)	Research Article	8	17	3	28
2)	Review Article	2	2	0	4
3)	Book Chapter	9	11	1	21
	Total	19	30	4	53
2020					
Sr. No.	Publication Type	DBSB	DEPS	DBM	Total

1)	Research Article	24	14	4	42
2)	Review Article	3	6	0	09
3)	Book Chapter	8	10	0	18
Total		35	30	4	69
Total 12019 and 2020		54	59	8	121

Details of Publications

2019

Department of Biological Sciences & Biotechnology (DBSB) (19)

- 1) Mishra V, **Pathak C. (2019)**. Structural insights into pharmacophore assisted in silico identification of protein-protein interaction inhibitors for inhibition of human Toll-like receptor 4 – myeloid differentiation factor-2 (hTLR4–MD-2) complex. *Journal of Biomolecular Structure and Dynamics*. 37:1968-1991. **(Research Article)**
- 2) Vaidya FU Sharma R, Shaikh S, Ray D, Aswal VK, **Pathak C. (2019)**. Pluronic micelles encapsulated Curcumin manifests apoptotic cell death and inhibits pro-inflammatory cytokines in Human breast adenocarcinoma cells. *Cancer Reports*, 2:1-e1133. <https://doi.org/10.1002/cnr2.1133>. **(Research Article)**
- 3) Mishra V, **Pathak C. (2019)**. Human Toll-Like Receptor 4 (hTLR4): Structural and functional dynamics in cancer. *International Journal of Biological Macromolecules*. 122:425-451. **(Research Article)**
- 4) Manglani K, Vijayan V, **Pathak C**, Khandelwal M, Singh P, Chellappa S, Yadav VK, Surolia A, Gupta S. **(2019)**. Development and characterization of supramolecular calcitonin assembly and assessment of its interactions with the bone remodeling process. *Bone*. 122:123-135. **(Research Article)**
- 5) Kulkarni PG, Shah N, Waghela BN, **Pathak C**, Pappachan A. **(2019)**. *Leishmania donovani* adenylate kinase 2a prevents ATP-mediated cell

- cytolysis in macrophages. *Parasitology International*. 72:101929
<https://doi.org/10.1016/j.parint.2019.101929>. **(Research Article)**
- 6) Rao TS, Mustfa SA, **Pathak C**, Ranjan K. (2019). "Cancer Immunotherapy: Future prospective with wide therapeutic spectrum". *Cancer Sci Res* 6. 1-8. **(Review Article)**
- 7) **Pathak C**, Vaidya F.U. Pandey S.M. (2019). Mechanism for Development of Nanobased Drug Delivery System "Applications of Targeted Nano Drugs and Delivery Systems Nanoscience and Nanotechnology in Drug Delivery: A volume in Micro and Nano Technologies. DOI <https://doi.org/10.1016/C2017-0-00274-4>; ISBN 978-0-12-814029-1; Imprint Elsevier. **(Book Chapter)**
- 8) A Manhas, **Patel D**, MY Lone, PC Jha. (2019). Identification of natural compound inhibitors against PfDXR: A hybrid structure-based molecular modeling approach and molecular dynamics simulation studies. *Journal of cellular biochemistry*. 120 (9),14531-14543. **(Research Article)**
- 9) N Gour, V Kshtriya, S Gupta, B Koshti, R Singh, **D Patel**, KB Joshi. (2019). Synthesis and Aggregation Studies of Pyridothiazole Based AIEE Probe and its Application in Sensing Amyloid Fibrillation. *ACS Applied Bio Materials*. 2(10) 4442–4455. **(Research Article)**
- 10) Patel B, Singh V, **Patel D**. (2019). Structural Bioinformatics Essentials of Bioinformatics, Understanding Bioinformatics: Genes to Proteins III, 169-199. **(Book chapter)**.
- 11) Panchal K, **Tiwari AK**. (2019). Mitochondrial dynamics, a key executioner in neurodegenerative diseases. *Mitochondrion*. 47:151-173. **(Review Article)**
- 12) Pandey SS, Bhatt R, **Tiwari BS**. (2019). Plant Death: Short and Long Life Span to Immortality. *Sensory Biology of Plants*. 601-619 **(Book Chapter)**

- 13) Singh S, **Tiwari BS.** (2019). Biosynthesis of High-Value Amino Acids by Synthetic Biology. *Current Developments in Biotechnology and Bioengineering.* 257-294. **(Book Chapter)**
- 14) Gour N, Kanth P C, Koshti B, Kshtriya V, Shah D, Patel S, **Agrawal-Rajput R,** Pandey MK. (2019). Amyloid-like Structures Formed by Single Amino Acid Self-Assemblies of Cysteine and Methionine. *ACS Chem Neurosci.* 20;10(3):1230-1239. **(Research article).**
- 15) Nisarg G., Panchasara H., Patel S., **Singh V.** (2019). “Molecular Biology Techniques for the Identification and Genotyping of Microorganisms” chapter in *Microbial genomics in sustainable agroecosystems*, eds Tripathi V., Kumar P., Tripathi P., Singh AK. Springer. 203-226. **(Book Chapter).**
- 16) Bhattacharjee G., Khambhati K., **Singh V.** (2019). “RNA-Guided CRISPR-Cas9 System for Removal of Microbial Pathogens” chapter in *Microbial genomics in sustainable agroecosystems*, eds Tripathi V., Kumar P., Tripathi P., Singh AK. Springer. 227-248. **(Book Chapter).**
- 17) Bhattacharjee G., Mani I., Gohil N., Khambhati K., Braddick D., Panchasara H., **Singh V.** (2019). CRISPR technology for genome editing” chapter in *Precision medicine for investigators, practitioners and providers* eds Faintuch J., Faintuch S. **Elsevier.** pp 39-44. **(Book Chapter).**
- 18) Pandey VC, **Singh V.** (2019). “Exploring the potential and opportunities of recent tools for removal of hazardous materials from environments” chapter in *Phyto management of Polluted Sites*, eds VC Pandey and K Baudh, Elsevier pp. 501-516. **(Book Chapter).**
- 19) Ramírez-García R, Gohil N, **Singh V.** (2019). “Recent advances, challenges and opportunities in bioremediation of hazardous materials” chapter in *Phytomanagement of Polluted Sites*, eds VC Pandey and K Baudh, Elsevier pp. 615-568. **(Book Chapter).**

Department of Engineering & Physical Sciences (DEPS) (31)

- 1) Sutariya PG, Soni H, Gandhi SA, **Pandya A. (2019)**. Luminescent behavior of pyrene-allied calix[4]arene for highly pH selective recognition and determination of Zn²⁺, Hg²⁺ and I⁻ via CHEF-PET mechanism: Computational experiment and paper based device, **New J. Chem.** 43, 9855-9864. **(Research Article)**
- 2) Sutariya PG, Soni H, Gandhi SA, **Pandya A. (2019)**. Novel tritopic calix[4]arene CHEF-PET fluorescence paper based probe for La³⁺, Cu²⁺, and Br⁻: Its computational investigation and application to real samples, **Journal of Luminescence.** 212, 171-179. **(Research Article)**
- 3) Sutariya PG, Soni H, Gandhi SA, **Pandya A. (2019)**. Single-step fluorescence recognition of As³⁺, Nd³⁺ and Br⁻ using pyrene-linked calix[4]arene: application to real samples, computational modelling and paper-based device, **New Journal of Chemistry.** 43, 737-747. **(Research Article)**
- 4) Sutariya PG, Soni H, Gandhi SA, **Pandya A. (2019)**. Novel luminescent paper based calix [4] arene chelation enhanced fluorescence-photoinduced electron transfer probe for Mn²⁺, Cr³⁺ and F⁻, **Journal of Luminescence.** 208, 6-17. **(Research Article)**
- 5) Ansari N, Sutariya PG, **Pandya A. (2019)**. Nano-tools for illicit sensing: advances and challenges in forensic investigation, **Nova Science Publishers,** USA, ISBN: 978-1-53616-040-6. **(Book Chapter)**
- 6) **Pandya A,** Roz HB and Shukla RK. **(2019)**. Role of Nanotechnology in Forensic Document Examination and Preservation, **Nova Science Publishers,** USA, ISBN: 978-1-53616-040-6**(Book Chapter)**
- 7) Raijiwala P, **Pandya A,** Shukla RK. **(2019)**. An Analytical Approach to Investigate Nanoparticle– Protein Corona Complexes, **Book: Nanoparticle–Protein Corona: Biophysics to Biology** Edited by Ashutosh

- Kumar and Alok Dhawan, The Royal Society of Chemistry, ISBN:978-1-78801-391-8. **(Book Chapter)**
- 8) Prajapati A, **Pandya A. (2019)**. Nanosensor for body fluid identification: recent advances and future opportunities, Nova Science Publishers, USA, ISBN: 978-1-53616-040-6. **(Book Chapter)**
 - 9) Ansari N, Sutariya P, **Pandya A. (2019)**, Nano-tools for illicit sensing: advances and challenges in forensic investigation, *Nova Science Publishers*, USA, ISBN: 978-1-53616-040-6. **(Book Chapter)**
 - 10) Pandya A. Roz H. and K Shukla R. **(2019)**. Role of Nanotechnology in Forensic Document Examination and Preservation, *Nova Science Publishers*, USA, ISBN: 978-1-53616-040-6. **(Book Chapter)**
 - 11) Raijiwala P, **Pandya A**, Shukla R. **(2019)**. An Analytical Approach to Investigate Nanoparticle– Protein Corona Complexes: Nanoparticle–Protein Corona: Biophysics to Biology Edited by Ashutosh Kumar and Alok Dhawan, *The Royal Society of Chemistry*, ISBN:978-1-78801-391-8 **(Book Chapter)**
 - 12) Prajapati A, **Pandya A.**(2019). Nanosensor for body fluid identification: recent advances and future opportunities, *Nova Science Publishers*, USA, ISBN: 978-1-53616-040-6. **(Book Chapter)**
 - 13) Patel RJ, **Chandra RS**, Patel Y. **(2019)**. Synthesis and Investigation of Mesomorphic Properties of Ester Linkage containing Compounds. *International, Jour. For Res. in App. Sci. and Eng. Tech.*7(4):1411-1416. **(Research Article)**
 - 14) Kher SN, Prajapati HR, Makwana NG, **Chandra RS. (2019)**. Dependence of mesomorphism on terminal polar group in novel azoester series group in novel azoester series, *LCMC*. 682(1):44-53. **(Research Article)**
 - 15) Mehta DR, **Chandra RS**, Maisuria MM. **(2019)**. Thermodynamic Studies of Complexes of Amlodipine Besylate with Fe^{3+} , Ni^{2+} , Mg^{2+} , Co^{2+} and Ca^{2+} cations in pure Methanol and in the mixtures of Methanol-Water at 303.15,

- 313.15 and 323.15 K by Conductometric Method. *Int. Jour.of App.Chem.* 15(2):133-143. (Research Article)
- 16) **Mishra S**, Halpani CG, Sejal S. (2019). Updates In Curcumin Pyrazole and Isoxazole Derivatives: Synthesis and Biological Application. *Chemistry & Biodiversity* 16(3), e1800366. (Review Article)
- 17) **Mishra S**, Halpani CG. (2019). Nickel-Catalyzed Heck Reaction of Aryl Halides and Terminal Olefins Using Zinc/Triflate Ligand/DMA/TBAB, *ChemistrySelect*, 23(4) 6913-6916. (Research Article)
- 18) **Mishra S.** (2019). Quinazolinone and Quinazoline Derivatives: Synthesis and Biological Application, *IntechOpen*, 75 ISBN: 978-1-83880-140-3. (Book Chapter)
- 19) **Mishra R**, Mishra JS, Chaubey SA. (2019). Recent Advances on Triazolium Ionic Liquids: Synthesis and Applications. *Current Organic Chemistry* 23(11): 1237-1253 (Review Article)
- 20) **Padariya N**, Patel N. (2019). A Survey on Future Modernization of Agriculture using IOT "Journal of Emerging Technologies and Innovative Research (JETIR)". VI: 2349-5162. (Survey paper)
- 21) Gedam S, Chaudhary A, Vijayakumar R, Goswami A, **Bajad G.** (2019). Thermal, mechanical and morphological study of Carbon nanotubes-Graphene oxide and Silver nanoparticles based Polyurethane composites. **Materials Research Express**. Vol 6. No. 8,1-12. (Research Article)
- 22) Sahni M., Shah D, **Sahni R.** (2019). A new modified accelerated iterative scheme using amalgamation of fixed point and NR method, *Journal of Interdisciplinary Mathematics*, vol. 22: 679-688. (Research Article)
- 23) Shah D, Sahni M, **Sahni R.** (2019). Comparison of Newton-Raphson and Kang's Method with newly developed Fuzzified He's Iterative method for solving nonlinear equations of one variable, *WSEAS Transactions on Mathematics*, Vol. 18:6-13. (Research Article)

- 24) Sahni M, **Sahni R.**, Verma R, Mandaliya A., Shah D. (2019). Second Order Cauchy Euler Equation and Its Application for Finding Radial Displacement of a Solid Disk using Generalized Trapezoidal Intuitionistic Fuzzy Number, *WSEAS Transactions on Mathematics*, Vol. 18:37-45. (Research Article)
- 25) Sahni M, Mandaliya A, **Sahni R.** (2019). Evaluation of Teachers' Performance Based on Students' Feedback Using Aggregator Operator, *WSEAS Transactions on Mathematics*, vol.18: 85 – 90. (Research Article)
- 26) Shah D, Sahni M, **Sahni R.** (2019). Solution of Algebraic and Transcendental Equations using Fuzzified He's Iteration Formula in terms of Triangular Fuzzy Numbers. *WSEAS Transactions on Mathematics*, vol.18:91-96. (Research Article)
- 27) Sahni M, **Sahni R.**, Verma R., Mandaliya A., Shah D. (2019). Generalized Trapezoidal Intuitionistic Fuzzy Number for Finding Radial Displacement of a Solid Disk. *WSEAS Transactions on Mathematics*, vol. 18:105 – 111. (Research Article)
- 28) Sahni M, Mandaliya A, **Sahni R.** (2019). Ranking of Teachers Based on Feedback from the Students using Multiple Subjects, *WSEAS Transactions on Mathematics*, 13; 7 – 12. (Research Article)
- 29) **Gaur, G.** (2019). as part of LIGO Scientific Collaboration and Virgo Collaboration (B.P. Abbott et al.), GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs Published in *Phys. Rev. X* 9, 031040. (Research Article)
- 30) Mishra P, **Talati I**, Shaikh A. (2019). Supply Chain Network Optimization Through Player Selection Using Multi-objective Genetic Algorithm, *Optimization and Inventory Management*, Springer, Singapore, 281-315. (Book Chapter)

- 31) Shaikh A, Mishra P, **Talati I. (2019)**. Allocation of Order Amongst Available Suppliers Using Multi-objective Genetic Algorithm, *Optimization and Inventory Management, Springer, Singapore*, 317-329. (**Book Chapter**)

Department of Business & Management (DBM)

1. ThakkarH, **Tiwari R. (2019)**. An Empirical Assessment of Gujarat Textile Policy 2012: Industrial Compatibility and Policy Support for Textile Industries. *IJMTE*, 9(4):4635-4652. (**Research Article**)
2. Kushwaha M, **Tiwari R. (2019)**. A Pragmatic Approach of Budgeted Expenditure on Social Sector in Gujarat. *IJRAR*, 6(1): 837-843. (**Research Article**)
3. **Rathod, D. (2019)**. Student - Centred Curriculum Design and Market Demand of English Language. D. B. Hathi, Redefining the Methods of Curriculum: Designing and Delivering. *M P Arts & M H Commerce*: 168-174. (**Book Chapter**)
4. **Rathod, D. (2019)**. Deconstructing Language Teaching Approach for E-learners. *Laglit*. 6(2): 76-80 (**Research Article**)

2020

Department of Biological Sciences & Biotechnology (DBSB) (35)

- 1) Kallio P, Jokinen E, Högström J, **Das S**, Heino S, Lähde M, Brodtkin J, Korhonen E A, Alitalo K. (**2020**). Blocking angiopoietin-2 Promotes Vascular Damage and Growth Inhibition in Mouse Tumors Treated with Small Doses of Radiation. *Cancer Res.* 2020 Jun 15;80(12):2639-2650. doi: 10.1158/0008-5472.CAN-20-0497. (**Research Article**)
- 2) Waghela B.N., Vaidya F.U, Chhipa A.S., Ranjan K., Tiwari B.S., **Pathak C. (2020)**. AGE-RAGE synergy influences Programmed Cell death signaling to

- promote cancer. *Molecular and Cellular Biochemistry* DOI : 10.1007/s11010-020-03928-y. **(Research Article)**
- 3) Ranjan K, Waghela B.N., Vaidya F.U. and **Pathak C. (2020)**. Cell penetrable peptide conjugated FADD induces apoptosis and regulates inflammatory signaling in cancer cells. *Int. J. Mol. Sci.*, 21, 6890; doi:10.3390/ijms21186890. **(Research Article)**
 - 4) Waghela BN, Vaidya FU, Agrawal Y, Santra MK, Mishra V, **Pathak C. (2020)**. Molecular Insights of NADPH Oxidases (NOX) and Its Pathological Consequences. *Cell Biochemistry and Function*. 2020;1–17. <https://doi.org/10.1002/cbf.3589>. **(Research Article)**
 - 5) Vaidya F.U, Chhipa A.S., Mishra V, Gupta V.K., Rawat S.G, Kumar A & **Pathak C. (2020)**. Molecular and Cellular Paradigms of Multidrug Resistance in Cancer. *Cancer Reports*. DOI: 10.1002/cnr2.1291. **(Research Article)**
 - 6) Priyadarshi K, Shirsath K, Waghela B., Sharma A., Kumar A., **Pathak C. (2020)**. Surface modified PAMAM Dendrimers with Gallic acid inhibits, cell proliferation cell migration and inflammatory response to augments apoptotic cell death in human colon carcinoma cells. *Journal of Biomolecular Structure & Dynamics*. <https://doi.org/10.1080/07391102.2020.1802344>. **(Research Article)**
 - 7) Waghela B.N., Vaidya F.U, Dave G., and **Pathak C. (2020)**. Inhibition of NADPH oxidase activity augments 5-fluorouracil mediated cell Death in human colon carcinoma cells, *Int. J. Adv. Res.* 8(07), 865-874. **(Research Article)**
 - 8) Varma R., Pandya J., Vaidya F.U., **Pathak C**, Bhatt B.S. and Patel M.N. **(2020)**. Biological activities of pyrazoline-indole based Re(I) carbonyls: DNA interaction, antibacterial, anticancer, ROS production, lipid peroxidation, in vivo and in vitro cytotoxicity studies. *Chemico-Biological Interactions*. doi.org/10.1016/j.cbi.2020.109231. **(Research Article)**

- 9) Varma R., Pandya J., Vaidya F.U., **Pathak C.**, Bhatt B.S. and Patel M.N. (2020). Synthesis, Characterization and Biological Application of Ppyrazolo [1,5-a]pyrimidine] Based Organometallic Re(I) Complexes. *Acta Chimica Slovenica*. DOI: 10.17344/acsi.2020.6017. **(Research Article)**
- 10) Patel N.J, Bhatt B.S., Vekariya P.A., Vaidya F.U., **Pathak C.**, Pandya J., & Patel M.N. (2020). Synthesis, characterization, structural-activity relationship and biomolecular interaction studies of heterolepticPd(II) complexes with acetyl pyridine scaffold. *Journal of Molecular Structure* <https://doi.org/10.1016/j.molstruc.2020.128802>. **(Research Article)**
- 11) Pursuwani B.H., Bhatt B.S., Vaidya F.U., **Pathak C.** & Patel M.N. (2020). Oxadiazole based Os(IV) compounds as potential DNA intercalator and cytotoxic agents. *Inorganic Chemistry Communications*. <https://doi.org/10.1016/j.inoche.2020.108070>. **(Research Article)**
- 12) Doshi P., Bhargava P., Singh V., **Pathak C.**, Joshi C., Joshi M. (2020). Escherichia coli strain engineering for enhanced production of serratiopeptidase for therapeutic applications. *International Journal of Biological Macromolecules*. <https://doi.org/10.1016/j.ijbiomac.2020.05.256>. **(Research Article)**
- 13) Bhatt B.S., Gandhi D.H., Vaidya F.U., **Pathak C.** & Patel T.N. (2020). Cell apoptosis induced by ciprofloxacin based Cu(II) complexes: Cytotoxicity, SOD mimic and antibacterial studies, *Journal of Biomolecular Structure and Dynamics*, DOI: 10.1080/07391102.2020.1776641. **(Research Article)**
- 14) Kanthecha D.N., Bhatt B.S., Raval D.B., Thakkar V.R., Vaidya F.U., **Pathak C.** & Patel M.N. (2020). Bipyrazole based novel bimetallic μ -oxo bridged Au(III) complexes as potent DNA intercalative, genotoxic, anticancer, antibacterial and cytotoxic agents. *Journal of Inorganic and Organometallic*

Polymers and Materials. DOI: <https://doi.org/10.1007/s10904-020-01618-2>.

(Research Article)

- 15) Pursuwani B. H., Bhatt B.S., Vaidya F.U., **Pathak C.** & Patel M.N. (2020). Tetrazolo[1,5-a]quinoline moiety-based Os(IV) complexes: DNA binding/cleavage, bacteriostatic and photocytotoxicity assay, *Journal of Biomolecular Structure and Dynamics*, DOI: 10.1080/07391102.2020.1756912. **(Research Article)**
- 16) Varma R.R., Pandya J.G., Sharma J., **Pathak C.** & Patel M.N (2020). DNA interaction, in vivo and in vitro cytotoxicity, reactive oxygen species, lipid peroxidation of –N, S donor Re(I) metal complexes. *Molecular Diversity*, DOI <https://doi.org/10.1007/s11030-020-10040-2>. **(Research Article)**
- 17) Priyadarshi K., Mishra R., Sharma A., and **Pathak C.** (2020). Application of Dendrimers in drug delivery: A multifaceted approach" *Int. J. Sci. Res* 9(4) 1-17| DOI:10.36106/ijsr. **(Research Article)**
- 18) Parmar M.P., Waghela B.N., Vaidya F.U, **Pathak C.** & Parmar D.P. (2020) "Evaluation of Antimitotic Activity of Herbal Extracts Using Plant-Based Model Systems and Their Cytotoxic Potential against Human Colon Carcinoma Cells", *Journal of Cancer Research and Therapeutics*. DOI: 10.4103/jcrt.JCRT_853_19. **(Research Article)**
- 19) **Pathak C.**, Vaidya F.U., Waghela B.N., Chhipa A.S., Tiwari B.S., & Ranjan K (2020) Advanced glycation end products mediated oxidative stress and regulated cell death signalling in cancer; Chakraborti, Sajal, Ray, Bimal K, Roychowdhury, Sushanta (Eds.) *Handbook of Oxidative Stress and Cancer*. Springer-Nature, ISBN 978-981-15-9412-0 **(Book Chapter)**
- 20) Vaidya F.U., Chhipa A.S., Sagar N & **Pathak C.** (2020). Oxidative stress and inflammation can fuel cancer; In Maurya et al. (Eds) *Role of oxidative stress in pathophysiology of disease*. Springer, Singapore. DOI:

https://doi.org/10.1007/978-981-15-1568-2_14. ISBN: 978-981-15-1567-5.

(Book Chapter)

- 21) **Desai P**, Tarwadi D, Pandya B, Yagnik B. (2020). Immunoinformatic Identification of Potential Epitopes In Immunoinformatics. Humana, New York, NY. (pp. 265-275) **(Book Chapter)**.
- 22) Verma N., Sharma S., **Vishwakarma GS.**, and Pandya A., (2020) Plant Stimulant to Nanotoxicity: Recent Advancements and Opportunities. *Current Nanotoxicity and Prevention*, 1, 1-11. **(Review Article)**
- 23) **Vishwakarma GS**, Bhattacharjee G, Gohil N, Singh V., (2020) Current status, challenges and future of bioremediation in chapter **Bioremediation of pollutants: From genetic engineering to genome engineering**. Elsevier ISBN: 9780128190258 **(Book Chapter)**
- 24) Bhattacharjee G, Gohil N, Vaidh S, Joshi K, **Vishwakarma GS.**, (2020) Microbial bioremediation of industrial effluents and pesticide. in chapter **Bioremediation of pollutants: From genetic engineering to genome engineering** Elsevier ISBN: 9780128190258 **(Book Chapter)**
- 25) Verma N., Vaidhya S., **Vishwakarma GS.**, Pandya A., (2020). Antimicrobial nanomaterials for water disinfection. *Prevention and Antibacterial Applications of Nanomaterials*. Elsevier, ISBN: 9780128199435. **(Book Chapter)**
- 26) **Tiwari AK**, Tiwari BS. (2020). Cyanotherapeutics: an emerging field for future drug discovery. *Applied Phycology*. 1:1-14. **(Review Article)**
- 27) Ambastha V, Chauhan G, **Tiwari BS** and Tripathy BC. (2020). Execution of programmed cell death by singlet oxygen generated inside the chloroplasts of *Arabidopsis thaliana*. *Protoplasma* 257(3):841-851. **(Research Article)**
- 28) Ambastha V, S.K. Sopory, B.C. Tripathy and **Tiwari BS** (2020). Salt induced programmed cell death in rice: evidence from chloroplast proteome signature.

Functional Plant Biology doi: 10.1071/FP19356. Online ahead of print.
PMID: 32702286. **(Research Article)**

- 29) Waghela BN, Vaidya FU, Chhipa AS, Ranjan K, **Tiwari BS**, Pathak C (2020). Advanced glycation end products mediated oxidative stress and regulated cell death signalling in cancer. In: Handbook of Oxidative Stress and Cancer Springer Verlag. (Accepted for publication) **(Book Chapter)**
- 30) Panchal K, **Tiwari AK**. (2020). Miro, a Rho GTPase genetically interacts with Alzheimer's disease-associated genes (Tau, A β 42 and Appl) in **Drosophila melanogaster**. *Biology Open*. 9 (9). **(Research Article)**
- 31) Panchal K, Bhatt V, Raval M, **Tiwari AK**. (2020). Heat Shock Proteins, a Key Modulator of Neuroinflammation in Alzheimer's Disease. **Springer, Dordrecht**. 1-57. https://doi.org/10.1007/7515_2020_12 **(Book Chapter)**
- 32) **Challagundla N and Agrawal-Rajput R**. (2020). microRNAs (miR 9, 124, 155 and 224) transdifferentiate macrophages to neurons. *bioRxiv*.07.19.210633; <https://doi.org/10.1101/2020.07.19.210633>. **(Research article)**
- 33) Panchal K, **Tiwari AK**. (2020). Miro (Mitochondrial Rho GTPase), a key player of Mitochondrial axonal transport and mitochondrial dynamics in neurodegenerative diseases. **Mitochondrion (In Press) (Review Article)**
- 34) **Patel D***, et al. (2020). Computational investigation of binding of chloroquinone and hydroxychloroquinone against PLPro of SARS-CoV-2. *J. Bio. Structure & Dynamics (In Press)* (<https://doi.org/10.1080/07391102.2020.1844804>). **(Research Article)**.
- 35) Sharma A*, Vora J*, **Patel D***, et al. (2020). Identification of natural inhibitors against prime targets of SARS-CoV-2 using molecular docking, molecular dynamics simulation and MM-PBSA approaches. *J. Bio. Structure &*

Dynamics, 1-16 (10.1080/07391102.2020.1846624). (**Research Article**). (* equal contribution)

Department of Engineering & Physical Sciences (DEPS) (30)

- 1) Verma, N; Sharma, S., Vishwakarma GS, **Pandya A.**, (2020). Plant Stimulant to Nanotoxicity: Recent Advancements and Opportunities. *Current Nanotoxicity and Prevention*, 1, 1-11. (**Review Article**).
- 2) Kongor A, Panchal M, Athar M, Vora M, Verma N, **Pandya A**, Jha PC, Bhadresha K, Rawal R, Jain V. (2020). Colorimetric and electrochemical sensing of As (III) using calix [4] pyrrole capped gold nanoparticles and evaluation of its cytotoxic activity, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*. 98: 29–41. (**Research Article**)
- 3) Sutariya PG, Soni H, Gandhi SA, **Pandya A.** (2020). Turn on fluorescence strip based sensor for recognition of Sr²⁺ and CN⁻ via lower rim substituted calix [4] arene and its computational investigation, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*. 118456. (**Research Article**)
- 4) Shah J, **Pandya A**, Goyal P, Misra SK, Singh S. (2020). BSA-Decorated Magnesium Nanoparticles for Scavenging Hydrogen Peroxide from Human Hepatic Cells, *ACS Appl. Nano, Mater.* 3, 4, 3355–3370. (**Research Article**)
- 5) Prajapati A, Verma N, **Pandya A.** (2020). Highly sensitive vertical flow-based point-of-care Immunokit for rapid and early detection of human CRP as a cardiovascular risk factor, *Biomedical Microdevices*. 28,22(2),28. (**Research Article**)
- 6) **Gautam S**, Om H, Kumar D. (2020). “Intrusion Detection System in Internet of Things” Design Frameworks for Wireless Networks, pp. 65-93, Springer. (**Book Chapter**)

- 7) Sharma N, **Gautam S**, Henry A, Kumar A. (2020). "Application of Big Data and Machine Learning" Machine Learning and Big Data: Concepts, Algorithms, Tools and Applications, pp. 305-333, Willey Scrivener Publishing. **(Book Chapter)**
- 8) **Gautam S**, Prajapati R, Om Hari, (2020). "Big Data Applications in Transportation System using Internet of Things" *Handbook of Research for Big Data: Concepts and Techniques*, Taylor & Francis. **(Book Chapter)**
- 9) **Sharma S.** (2020). Drawing Insights from COVID-19 Infected Patients Using CT Scan Images and Machine Learning Techniques: A study on 200 Patients "Environmental Science and Pollution Research". **Environ Sci Pollut Res Int.** 1–9. doi: 10.1007/s11356-020-10133-3. (Springer Nature) **(Research Article)**
- 10) Jayaraj P B, Limna Das P, Akondi Sai Manoj and **Sharma S.** (2020). Early Detection of Covid-19 on CT Scans Using Deep Learning Techniques: International Conference on Computing and Network Communications (CoCoNet'20), Proceedings in **SpringerLink digital library"** **(Review Article)**
- 11) Mehta DR, **Chandra RS**, Maisuria MM. (2020). Thermodynamic Studies of Complexes of Amlodipine Besylate with Ni²⁺, Mg²⁺, Co²⁺ and Ca²⁺ cations in pure and in mixed binary solvent systems at 303.15, 313.15 and 323.15 K by Conductometric Method. *Int. Jour. of Chem.Tech. Res.*13(1):206-216. **(Research Article)**
- 12) **Mishra S** and Patel S. (2020). Design, Synthesis, and Anti-bacterial Activity of Novel Deoxycholic Acid- Amino Alcohol Conjugates, *Medicinal chemistry* 16(3) 385 – 391. **(Research Article)**
- 13) Sanghvi H and **Mishra S.** (2020). Structure-Activity Relationship and Antimicrobial Evaluation of N-Phenylpyrazole Curcumin Derivatives, *Curr. Bioact. Compd.* 14(4),481 – 488. **(Research Article)**

- 14) Kalepu R and **Mishra S. (2020)**. Lewis acid catalyst system for Diels–Alder reaction. *J. Chem. Sci.* 132(48). (**Research Article**)
- 15) Mishra R, Mishra S. (2020). Updates in Bile Acid-Bioactive Molecule Conjugates and Their Applications, *Steroids*, 159, 108639. (**Review Article**)
- 16) Halpani C G, **Mishra S. (2020)**. Lewis acid catalyst system for Claisen-Schmidt reaction under solvent free condition. *Tet Lett.* 61 (31), 152175. (**Research Article**)
- 17) Gupta R K, Apte G R, Lokhande, K B, **Mishra S**, Pal J K. (2020). Carbohydrate-Binding Agents: Potential of Repurposing for COVID-19 Therapy. *Curr. Protein Pept. Sci.* (**Review Articles**) .
- 18) Priyadarshi K, **Mishra R**, Sharma A, and Pathak C. (2020). Application of Dendrimers in drug delivery: A multifaceted approach, *Int. J. Sci. Res*, 9(4). (**Review Article**)
- 19) Chaubey S A, **Mishra R. (2020)**. Synthesis of Task Specific Imidazolium Ionic Liquid as an Efficient Catalyst in Acetylation of Alcohols, Phenols and Amines *Chemical Papers* 74, 3259–3268. (**Research Article**)
- 20) Muwal PK, **Mishra R** and Pandey PS. (2020). Novel Bile Acid Based 1,2,3-Triazole Receptors for Recognition of Acetate and Dihydrogen Phosphate Ions *Chemistry Select*, 5, 10982–10987. (**Research Article**)
- 21) Chaubey SA, Patra N and **Mishra R. (2020)**. Synthesis of novel proline-based imidazolium ionic liquids, *Monatshefte für Chemie - Chemical Monthly*, 151, 1409–1417. (**Research Article**)
- 22) Mishra R, Mishra S (2020). Synthesis and Therapeutic Applications of Pyrazole Scaffold. *Nova Science Publishers*. ISBN: 978-1-53618-250-7. (**Book Chapter**)
- 23) Enamala MK, Chavali M, Tangellapally A, Pasumarthy D, Murthy MK, Kuppam CS, Chaudhary V, **Mishra R**, Naradasu D (2020). Use of

chalcogenides-based nanomaterials for wastewater treatment including bacterial disinfection and organic contaminants degradation. Elsevier Publishers ISBN: 978-0-12-820498-6. **(Book Chapter)**

- 24) **Padariya N, Patel N. (2020)**. Quality Grading Classification of Dry Chillies using Neural Network *Lecture Notes on Data Engineering and Communications Technologies (LNDECT)* Springer publication ISSN : 2367-4512”. **(Research Article)**
- 25) Shaikh A, Mishra P, Talati I. **(2020)**. Allocation of Order Amongst Available Suppliers Using Multi-objective Genetic Algorithm Optimization and Inventory Management 317-329, Springer. **(Book Chapter)**.
- 26) Mishra P, Talati I, Shaikh A. **(2020)**. Supply Chain Network Optimization Through Player Selection Using Multi-objective Genetic Algorithm Optimization and Inventory Management 281-315, Springer. **(Book Chapter)**.
- 27) Sahni, M., **Sahni, R. (2020)**. Analysis of Orthotropic Variable Thickness Rotating Disc. *Structural Integrity Assessment*, 479 – 486. **(Book Chapter)**.
- 28) **Choubisa M. (2020)**. “Big Data Applications in Transportation System using Internet of Things” Handbook of Research for Big Data: Concepts and Techniques, Taylor & Francis **(Book Chapter)**.
- 29) Verma N., Patel D., **Pandya A. (2020)**. Emerging diagnostic tools for detection of COVID-19 and perspective. *Biomedical Microdevices*. **(In Press)**. (<https://doi.org/10.1007/s10544-020-00534-z>). **(Review Article)**
- 30) **Dinaker A et al., (2020)**. Modelling and simulation of helical coil embedded heat storage unit using beeswax/expanded graphite composite as phase change material. Publication in Book Series “Advances in Intelligent System and Computing”. Springer Nature. **(Book Chapter)**

Department of Business & Management (DBM)

- 1) Kushwaha, M., **Tiwari, R.**, & Thakkar, H. (2020). An Empirical Investigation of Public Expenditure on Education and Economic Growth in Gujarat. *Our Heritage*, 68:23,60-77. (**Research Article**)
- 2) Thakkar, H., & **Tiwari, R.** (2020). Active Mechanism of Industries Associations in the Sustainable development of Micro Small and Medium Enterprises in Gujarat- An Assessment. *SIJSS*,18:3,26 (**Research Article**)
- 3) Thakkar, H., & **Tiwari, R.** (2020). Exploring hurdles faced by Industry Associations to mitigate water pollution: Study of CETP facilities,*GJSS*,3:2, 64-72.(**Research Article**)
- 4) Singh, A., **Das U**, Kumar,S. (2020). Gender, Technology, and Innovation: The Role of Women in Indian Micro Small and Medium Enterprises. '*World Review of Entrepreneurship, Management and Sustainable Development*'; Inderscience Publishers (In press) (**Research Article**)

PATENTS

Sr. No.	Authors Name	Title	Patent No.	Year
1	Prajapati A, Pandya A	"Rapid flow through based point-of-care Immuno-Kit for the early detection of heart fatty acid-binding protein (h-FABP) on myocardial infarction"	PTIN/002044 4	2020
2	Raijiwala P, Pandya A, Shukla R	A nano based immunoassay forensic blood detection kit	PTIN/001943 4	2020
3	Pathak CM, Mishra V, Tiwari S, Waghela B N., Vaidya FU., Kapoor N, Kumar D	Novel Caffeic Acid Analogsas Toll-like receptor 4 Antagonists	Application No. 20192103924 9	2019

Scheme of Developing High-quality research (SODH) fellowships from Government of Gujarat

Department of Education, Government of Gujarat strives to facilitate and promote qualitative research in emerging areas in Humanities, Social Sciences, Languages, Literature, Pure sciences, Engineering & Technology, Pharmacy, Medical, and Agricultural Sciences etc. Therefore, to facilitate and encourage young research scholars for undertaking research, the Department of Education, Government of Gujarat has initiated the Scheme Of Developing High-quality research (SHODH).

The following students from the Institute of Advanced Research received the SODH scholarships.

Sr. No	Student Name	Guide Name	Title of the SODH Proposal
Department of Biological Sciences & Biotechnology			
1	Chhipa Abu Sufiyan Shahid	Dr. Chandramani Pathak	Reprogramming Programmed Cell Death and Survival Pathways in Cancer via Regulation of Oxidative Stress and metabolic switch through stat3 and pkm2 signaling pathway

2	Kamath Anushree Ashok	Dr. Dhara Patel	Rhizobacterial determinants mediated elicitation of plant defense mechanism against fungal phytopathogens.
3	Vaidh Sachinkumar Amrutlal	Dr. Dhara Patel	To investigate the leachate treatment potential of immobilized white-rot fungi loaded with metallic nanoparticles
4	Parameswar Dalai	Dr. Reena Agrawal Rajput	To test the anti-cancer potential of Doxycycline via modulation of the Tumor-microenvironment.
5	Vora Hima Vatsal	Dr. Reena A Rajput	to test the improved efficacy of glycopeptide conjugate of Berberine for its anti-cancer potential and effect on the tumor microenvironment
6	Tarwadi Divyaben Kamleshbhai	Dr. Priti Desai	Evaluating the Immunogenicity of Recombinant Outer Membrane Proteins (OMPs) against salmonella
7	Thakor Rajkishansinh Raghuvirsinh	Dr. Suvendu Das	“Designing and Characterization of amyloid Based Biomembrane for Metal Binding as a sustainable solution for Contaminated Water”
Department of Engineering & Physical Sciences			
1	Dipakkumar Bariya	Dr. Satyendra Mishra	Design, Synthesis of Bile Acid Based Conjugates and Their Pharmacological and Physicochemical Applications

2	Nidhi Verma	Dr. Alok Pandya	Design and Development of Paper Based low cost Immunokit for Early Detection of Plant Pathogens.
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Ph.D. Supervisors Accredited in 2019-20

The following faculty have been recognized as Ph.D. Supervisor during the year 2020.

Sr. No.	Name of Faculty	Designation	Department
1)	Dr. Dhaval Patel	Assistant Professor	DBSB
2)	Dr. Gajendra Singh	Assistant Professor	DBSB
3)	Dr. Ruchi Singh	Assistant Professor	DBSB
4)	Dr. Dhara Rathod	Assistant Professor	DBM
5)	Dr. Niranjana Patra	Assistant Professor	DEPS
6)	Dr. Raviprakash Chandra	Assistant Professor	DEPS
7)	Dr. Sunil Gautam	Assistant Professor	DEPS
8)	Dr. Ganesh S Bajad	Assistant Professor	DEPS
9)	Dr. Deepalakshmi	Assistant Professor	DEPS
10)	Dr. Sachin Sharma	Assistant Professor	DEPS

DBSB: Department of Biological Sciences & Biotechnology

DBM: Department of Business & Management

DEPS: Department of Engineering & Physical Sciences

SEMINARS AND WEBINARS

Webinars Delivered:

Sr. No.	Date	Title of Webinar	Speaker/s
1	23/04/2020	Rapid Point-of-Care Diagnostic Testing In a Pandemic Environment.	Dr. Alok Pandya
2	30/04/2020	Covid-19 and Drug Development	Dr. Dhaval Patel
3	07/05/2020	Early & Accurate Diagnosis of Covid-19 using CT scan images & AI techniques.	Dr. Sachin Sharma
4	15/05/2020	Impact of Lockdown due to Covid19 on Economic Development.	Dr. Jay Joshi
5	21/05/2020	Impact of Covid-19 infection on brain and nervous system.	Dr. Anand K. Tiwari
6	25/05/2020	Cold Atmospheric Plasma Gateway for Disinfection.	Prof. K.S. Ganesh Prasad

7	28/05/2020	Novel CoronaVirus (Covid-19): Preventive Vaccines and Therapeutics.	Dr. Priti Desai
8	29/05/2020	Covid-19 Crisis and Cyber Security.	Mr. Naresh Kumar
9	01/06/2020	Institutional Design & Student Support for Excellence	Dr. Ruchi Singh
10	04/06/2020	Cellular and Molecular Insights into innate immunopathology of Covid-19.	Dr. Reena Agrawal Rajput
11	25-27/06/2020	Novel Polymer Composite for Mitigation of Covid-19.	Dr. S Sridhar, CSIR-IICT, Hyderabad; Dr. Vijaykumar R P, VNIT, Nagpur; Mr. Himalaya Vardikar, CIPET, Chandrapur; Dr. Ganesh Bajad, IAR Gandhinagar
12	15/06/2020	Cyber Crime Protective Strategies	Dr. Varun Kapoor (IPS), ADGP, Indore, MP.
13	19/10/2020	Blooms taxonomy	Dr Ajeet Kumar Rai, BHU, Varansi

14	06/11/2020	Outcome-based education	Dr Sriram Seshdri, Nirma University
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TRAINING WORKSHOPS

Sr. No.	Program detail	Theme/Title	Duration	Funding	Coordinator
1	Workshop	5 Days workshop on Microscopy	8-12/4/2019	GSBTM, Local Venders	Dr. Anand K. Tiwari & Dr. Budhi Sagar Tiwari
2	Workshop	7th PSSI-Plasma Scholars Colloquium	8-10/8/2019	-	DEPS
3	Workshop	One Day workshop on Recent Trends of Cloud Computing	28/08/2019	-	Dr. Sunil Gautam
4	Symposium	National Symposium on Basic & Translational Research in cancer Biology	11-12/9/2019	GSBTM, Local Venders	Dr. C.M. Pathak
5)	e-Workshop	Online Workshop on novel polymer	25-27/6/2020	IAR	Dr. Ganesh Bajad

		composites for mitigation of Covid 19			
6)	Workshop	Python for data science	10/2/2020	Amkay Software Solution	Dr. Sachin Sharma
7)	Crash workshop	CSIR-UGC-NET exam	18-23/5/2020	GSBTM	Dr. Reena Rajput

EXTERNAL COLLABORATION

IAR has been actively collaborating with other academic and research Institutes/Universities for further strengthen her focused research areas. Recently University has extended coloration with Industries as well in some key areas of research. The details of collaborations are as follows:

Sr. No.	Faculty Name	Department	Name of Collaborator	Nature of Collaboration
1	Prof. Ganesh Prasad	DEPS	Tata Steel	Research & Development
2	Dr. Alok Pandya	DEPS	Mr. Neel Shah, LHP nanotechnology, Ahmedabad,	Research & Development
3	Dr. Alok pandya	DEPS	Mr. Anil Peddi, Reckcon Diagnostics	Research & Development

4	Dr. Reena Agrawal-Rajput	DBSB	Dr. Manish Nivsarkar, BV Patel PRD Centre, Ahmedabad	Research & Development
5	Dr. Reena Agrawal-Rajput	DBSB	Dr. Manish Dutt, Ahmedabad University	Research & Development
6	Dr. Reena Agrawal-Rajput	DBSB	Dr. Jean-Christophe Bourdon, University of Dundee	Research & Development (submitted Newton Bhabha fellowship application)
			Dr. Chirag Desai, Vedanta, Ahmedabad	Research & Development
			Dr. Heena Dave, Nirma University	Research & Development

HONOURS AND AWARDS (2019-20)

2019

International Travel Awards:

- a) Dr. Priti Desai was awarded travel support from BactiVac group, University of Birmingham, UK to attend 2nd Annual Network Meeting held between 20 - 21 March.
- b) Ms. Komal Panchal, Ph.D. students, DBSB has been awarded travel support from DMM, the company of Biologist to attend 26th European Drosophila Research Conference (EDRC)-2019 organized at Swiss Tech Convention Centre at EPFL, Lausanne, Switzerland during 5 -8 September, 2019.
- c) Mr. Naveen CR has been awarded travel support to attend EMBO workshop on the theme “The impact of bacterial infections on human cancer” to be held between 26-29 October 2019 at Berlin, Germany

d) Mr. Naveen CR has been awarded travel support to attend IUIS-IIS-FIMSA Course on “Basic and Advanced Translational Immunology” to be held between Oct 12-Oct 16, 2019 at Jaipur

e) Dr. Priti Desai, DBSB has been awarded travel from the Chinese Society for Immunology (CSI), to attend the 17th International Congress of Immunology (IUIS 2019) which will be held during 19-23 October 2019, in Beijing, China

IAR Best Research & Innovation Award 2019

To promote research and innovation activities at IAR, IAR is offering best Research and Innovation award each year. Prof. Ganesh Prasad, Department of Engineering and Physical Sciences has received IAR best research & Innovation award in 2019.

IAR Best Teacher Award

Dr. Divya Dileep, Department of Engineering and Physical Sciences has received IAR best teacher award in 2019.

2020

a) Dr. Sachin Sharma, Assistant Professor, Dept of Engineering and Physical Sciences has received the following awards:

- **Special Mention Award** in Fight Corona Ideathon” organized by AICTE in the educators and researcher's category
- **2nd Runner Up** in COVID-19 hackathon organized by Vadodara Innovation Council and Yuvalay Labs. Came 3rd out of final 100 short-listed entries
- **Award with prize money in “Samhar COVID-19 Hackathon”** organized by Centre for Development of Advanced Computing (C-DAC) under the aegis of the National Supercomputing Mission (NSM), a Ministry of Electronics &

Information Technology (MeitY) and Department of Science & Technology (DST) initiative.

b) IAR best Research & Innovation Award 2020:

Dr. Reena Agarwal Rajput, Associate Professor, Department of Biological Sciences & Biotechnology has received the best research and innovation award in the year 2020.

c) IAR Best Teacher Award

Dr. Suvendu Das, Department of Biological Sciences and Biotechnology has received IAR best teacher award in 2020.

d) IAR Best Employee Award

Mr. Manga Ji, gardener received the best employee award in 2020.

MEMORANDA OF UNDERSTANDING (2019-20)

IAR had signed the following Memorandum of Understanding:

- 1) IAR signed MOU with **Talent Sprint Centre of Excellence (TSCOE)** for transformational high-end and deep-tech learning programs to our students. The Company's digital platform offers a hybrid onsite/online experience to seekers of deep technology expertise.
- 2) **SSIP (Student Startup and Innovation Policy)**, Govt of Gujarat has signed MOU with IAR for sensitization and support the innovation and ideas of

students for two years. Now, IAR will be a Nodal Institute to execute the action plans and strategies to support the innovation and ideas of students

3) **Caliche global company:** collaboration (MOU) with IAR in petroleum biotechnology research

4) **MoU with Atal Incubation Center,** Gujarat Technological University, Ahmedabad for support in viable enterprise/Startup with a specific focus on Healthcare, Medical Devices and Biotechnology and allied areas.



Siksha Pe Charcha 2.0 Programme held on 29th January 2019

INTERNATIONAL REACH

Our promoter's charity is a multi-national group of companies, Purico Group, with its head office in Nottingham, UK. Many of the members of our faculty have extensive experience abroad, having worked in prestigious universities around the world. We also have academic and research links with leading universities in the US, Europe and Asia. The Institute of Advanced Research therefore is able to offer international opportunities for our students and graduates to pursue higher studies abroad.

The following are some of the universities with which our faculty have collaborated:

- University of Minnesota, USA
- University of Rutgers, USA
- University of Nebraska, USA
- Virginia Tech, USA
- Mt Sinai School of Medicine, USA
- Old Dominion University, USA
- Nottingham Trent University, UK
- London South Bank University, UK
- University of Warwick, UK
- University of Zurich, Switzerland
- University Pierre et Marie Curie Paris, France
- University of Evry, France
- University of Helsinki, Finland
- Swedish University of Agricultural Sciences, Sweden
- University of Konstanz, Germany
- University Tuebingen, Germany
- Massey University, New Zealand
- Ulsan National Institute of Science and Technology, South Korea
- Osaka University Japan
- University of Tokyo, Japan
- Harbin Institute of Technology, China
- North West Polytechnical University, China
- Chongqing Jiaotong University, China

- Mount Sinai Medical School
- Temple University
- Institut de Denetique de Humaine
- Institu Gustave Roussy
- Mayo Clinic, Rochester

STUDENT SUPPORT SERVICES

RESIDENCES AND HOSTELS

Limited number of hostel accommodation including AC & Non AC is available for students inside the campus. Separate hostels are available for male and female students. Hostel accommodation is provided on shared basis. Furniture and other

essential facilities are provided to hostel residents. The accommodation will have a single bed, mattress, pillow, side table and a cupboard. Hot water facility is available in bathrooms. Wi-Fi facility is available at the hostel. GIFT city (first smart city in India) is only about 5 minutes away from our campus. Students get an opportunity to be with the rapidly developing area.

CANTEEN AND CAFETERIA

Messing facilities and full day cafe are available for students in the hostel. Indian vegetarian meals are served. Canteen facilities are also available for all staff and students in the university.



Internet

Broadband internet facilities are provided in the main building student social spaces and hostel complex at the University Campus. Students may avail higher bandwidth connections on payment basis.

Sports Facilities

Various indoor and outdoor sports facilities are available on the campus. Sports events are organized on regular basis in the campus. Students participate in Volleyball, Cricket, Athletics and other sports. Gymnasium with instructor is also available for students.



TRANSPORT

Taxi and Auto-Rickshaws are available for travel to Airport, Railway Stations and Bus stands. The University provides transport facilities for students coming from Ahmedabad and Gandhinagar on payment through a partnership with a neighboring institution.

The University has a contracted service for students to travel to the campus by bus.

STUDENT GUIDANCE AND SUPPORT

A student guidance cell has been created to assist students in day-to-day activities. It provides assistance, besides other issues such as admission

procedure, hostel facilities, transport facilities, guidance to female students, arranging, financial support etc. Parents, Guardians, Students are advised to contact the guidance cell for advice and counselling on related issues.



STUDENT COUNCIL

The University constituted Student Council, members of which who represent all students of the Institute at meetings with the President, Registrar, Head of Departments and Deans. The Council will meet twice each semester.

The student representatives for the Student Council of the Academic Year 2018-19 are:

Harsh Shah (BA, 1st year); Prakruti Gohil (BSc, 2nd year); Shivam Trivedi (Integrated MSc, 3rd year); Praneeta Rokkam (BSc, 3rd year); Divya Gupta (Bcom, 2nd year); Siddhant Pandey (BTech, 1st year); Aditya Narain (BBA, 1st year); Bhautik Chavda (BTech, 2nd year); Riddhi Contractor (BTech, 2nd year); Deepak Bariya (Msc, 1st year).

TRAINING AND PLACEMENT CELL

IAR have a dedicated training and placement cell to guide students and assist them in their placements after completing their education. Also, IAR routinely organizes training camps for student's personality development and skill enhancement.



Community & Societal Development





UNIVERSITY ACCOUNTS

University of Institute of Advance Research
C/o The Puri Foundation for Education in India
Koba Institutional Area,
Koba, Gandhinagar-382426 (Gujarat)

Income and Expenditure Statement for the year ended on 31/03/2020

Expenditure	Amount Rs.	Income	Amount Rs
Administrative Exp.	4464723.07	Sales Account @gst 18%	1500000.00
Adv. & Marketing Exp.	4015552.00	Canteen Income	2942375.00
Canteen Exp	3266110.00	Convocation 2020	125801.00
Conference & Meeting	1120979.00	Education Income	30549051.00
Depreciation	3768644.90	Hostel Income	965664.50
Education Exp.	151616.00	Other Income	741150.00
Electricity Expense	2985502.52	Grant for Research Staff Salary	2697649.00
Misc Expenses	54014.60	Grant Income - Recurring	1670537.00
Office Exp.	101374.00	Interest From Bank	107695.00
Repair & Maintenance	4496285.00	Overhead From Grant (Income)	581690.00
Research Exp. (From Ext.Grant)	1232559.00		
Salary & Wages	41557796.00		
Telephone, Internet & Website Exp.	732374.73		
Travelling Exp.	622238.00		
University Function	561651.00		
Building Rent Expense	5000000.00		
Consultancy Fees Exp.	60060.00		
Donation Exp	99671.00	Excess of expenditure over income	34201126.32
Insurance Exp (Vehicle)	24200.00		
Lab Expense - Institute	1146589.00		
Professional Fee	196100.00		
Sports Expenses	158465.00		
Stationery & Printing	260234.00		
Training Expenses	6000.00		
Total	76082738.82	Total	76082738.82


Subject to our report of evendate attached herewith

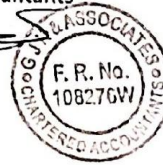
For Institute of Advance Research


Finance Officer


PRESIDENT

For G J K & Associates
Chartered Accountants


Jayesh J. Patel
Partner
M.No:109983



Date:23/11/2020
Place: Gandhinagar
UDIN:20109983AAAJS7481

University of Institute of Advance Research
C/o The Puri Foundation for Education in India
Koba Institutional Area,
Koba, Gandhinagar-382426 (Gujarat)

Balance Sheet as at 31/03/2020

Liabilities	Amount Rs	Assets	Amount Rs
Fund A/c		Fixed Assets	
As per Schedule -1	190402983.00	Assets	
		As per Schedule- 8	17757972.05
Loans (Liability)		Current Assets	
Payable to IAR	1000.00	Advance against work	215705.40
		As per Schedule- 5	6000.00
Current Liabilities		Deposits (Asset)	
TDS Payable	71774.00	Loans & Advances (Asset)	1002610.68
Sundry Creditors		As per Schedule- 6	
As per Schedule- 2	540682.00	Cash and Bank balance	
Other Deposits		As per Schedule- 7	8940521.97
As per Schedule- 3	936700.00	TCS Receivable	11587.40
Other Payables		TDS Receivable	151850.00
As per Schedule- 4	207732.00		
Puri Foundation for Education In India	17163533.50	Excess of expenditure over income	
		Opening Balance 147037030.68	
		Current Period <u>34201126.32</u>	181238157.00
Total	209324404.50	Total	209324404.50

Subject to our report of evendate attached herewith

For Institute of Advance Research

Finance Officer

Date:23/11/2020

Place: Gandhinagar

UDIN:20109983AAAJS7481

PRESIDENT

For G J K & Associates
Chartered Accountants

Jayesh J. Patel

Partner

M.No:109983





The University for Innovation

www.iar.ac.in

Institute of Advanced Research

Koba Institutional Area, Gandhinagar - 382 426, Gujarat

Contact No. 079 61804300 - Email: contact@iar.ac.in