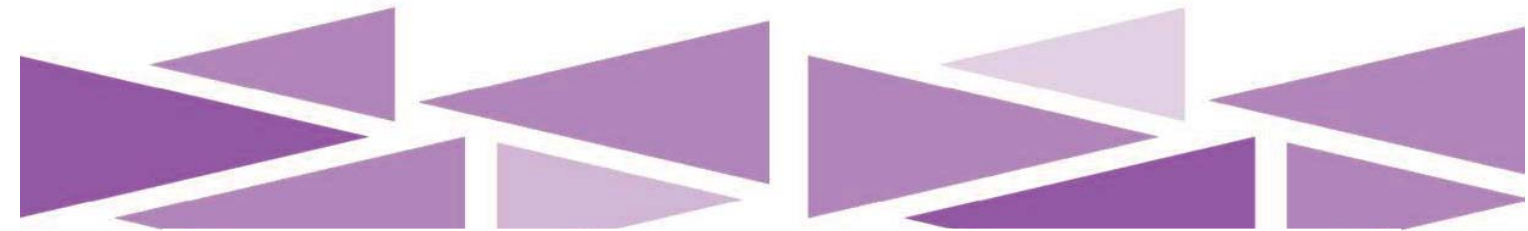
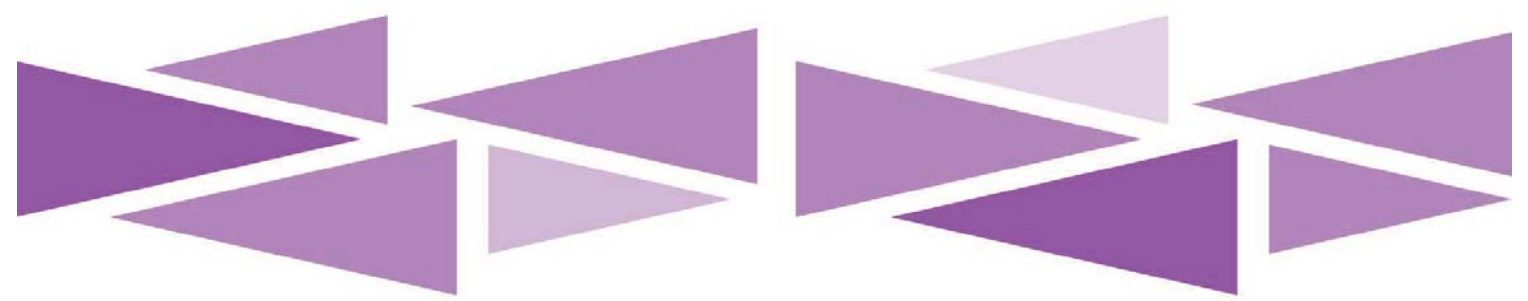




INSTITUTE OF ADVANCED RESEARCH
The University for Innovation



ANNUAL REPORT 2020-21



INDEX

Sr. No.	Particulars	Page No.
1	Foreword	1
2	Vision, Mission and Objectives	3
3	About the University	4
4	About Puri Foundation for Education in India	6
5	The Governing Body	7
6	The Board of Management	8
7	Education Philosophy	9
8	Research and Innovation	10
9	Our Faculty	13
10	Academic Departments	20
11	Academic Programs	21
12	Academic Infrastructure	26
13	Academic Outreach	29
14	Infrastructure and Facilities	35
15	Research Programs, Outputs and Outcomes	37
16	Thriving Research Environment	39
17	Memorandum of Understanding (2019-20)	56
18	IAR Research Journal	57
19	Honors and Awards	58
20	International Reach	59
21	Student Support Services	60
22	Training and Placement Cell	61
23	Accounts and Finance	65

FOREWORD



IAR has had a successful academic year in 2019-20 on a number of levels. This fledgling university's student numbers continue to expand. The University has 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 realize the vision set by our former President, Late Dr. A.P.J. 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 from France, UK, US, Korea, and Israel, in addition to top IITs and universities within India. All our faculties have earned doctorates from leading universities in India or overseas with postdoctoral experience.

We embarked on an ambitious campus expansion with the construction of a new engineering building which was to be ready for the start of the 2020-21 academic year. Unfortunately, due to the Covid-19 epidemic, the building's completion has been delayed, but we expect it to be ready for the second semester. We invested in improving student facilities, such as adding more hostels, a gym, and a variety 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 strategies and operations. We also involved academic and industry leaders on to our Academic Council as some of our members retired.

A number of new academic programs have been designed and verified to meet the demands of businesses and research institutions now and in the future. Business analytics, data science, entrepreneurship, strategic management, molecular medicine, and industrial biotechnology are among the new programs.

The Institute of Advanced Research is dedicated to creating and delivering world-class higher education programs based on cutting-edge research. Education that is disconnected from the real world does not always produce graduates who will be the driving force behind the economic progress, as well as the social and environmental well-being that we seek. As a result, students at the Institute of Advanced Research (IAR) engage in extra-curricular and co-curricular activities that allow them to interact with society, business, and industry. Through open lectures, joint research and innovation, business competitions, industry tours, and volunteer work in society, our students and faculty benefit from structured interaction with business and industry leaders.

Increasingly complicated issues necessitate ever-innovative solutions, which can only be fulfilled through a combination of multidisciplinary education, research, and application.

One of the most significant aspects of university education is knowledge acquisition. Our emphasis is also on growing our students as self-assured and ambitious individuals, as we feel that self-assured and enterprising graduates will be our society's future leaders and change-makers.

We are a young and expanding university, which allows us to set 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

Our vision is to be 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 aim to achieve this through world class research and innovation led academic programs in partnership with employers through student centered learning strategies and cutting edge leaning environments.

Objectives

- ❖ Our university will be an outstanding place for learning and personal development for young people in our communities.
- ❖ Employers and research funders will be integral to our strategic development and learning of our 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 the most preferred by top universities and employers.

ABOUT THE 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 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 dedicated to creating and providing world-class higher education programs based on current research. Education that is detached from its real-world context does not always produce graduates who will be the catalyst for the economic, social, and environmental transformations that we seek. As a result, through extra-curricular and co-curricular initiatives, IAR students engage actively with society, business, and industry. Through open lectures, business competitions, industrial visits, and volunteer work in the community, our students and professors have a structured connection with business and industry leaders.

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 expanding research and innovation-driven university, which allows us to set the standard for creative university education, research, and industry that contributes to the social and economic progress of our state and nation.

Increasingly complex problems demand ever innovative solutions which can only be realized through multidisciplinary education, research, and application which are intertwined. One of the most important aspects of university education is the acquisition of knowledge. Along with a strong academic focus, we strive to develop our students as confident and ambitious individuals, as we think that confident and enterprising graduates will be the future leaders and change makers. The university wants to be the most prominent private higher education institution in the country, with a significant 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 field has highly successful faculty members, the majority of whom have worked at world-renowned universities abroad, as well as cutting-edge research facilities and a research culture that promotes the holistic development of future scientists, engineers, managers, and entrepreneurs. As a result, our students benefit from world-class research-based instruction and a student-friendly learning atmosphere that encourages confidence and enterprise through co-curricular and extra-curricular activities.

ABOUT PURI FOUNDATION FOR EDUCATION IN INDIA

The Puri Foundation for Education in India is an Ahmedabad, Gujarat-based charitable foundation. Prof. Nathu Ram Puri, a well-known NRI industrialist living in Nottingham, UK, has generously funded the trust.

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.

The trust established the Indian Institute of Advanced Research in Koba, Gandhinagar, as part of its goals. In 2003, Gujarat's then-Chief Minister, Shri Narendra Modi, lay the foundation stone for the institute. The first Centre of Excellence, School of Biological Sciences and Biotechnology was set up in 2006. The President of India, Dr. A.P.J. Abdul Kalam, formally inaugurated it 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 United Kingdom in order to establish joint research and education programs with the university in India to ensure that the quality of education and research are internationally benchmarked.

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

	Prof. Rao Bhamidimarri The Chairman President, Institute of Advanced Research , Director (Education), Purico Group		
MEMBERS			
	Ms. Anju Sharma, IAS Principal Secretary, Higher and Technical Education, Govt. of Gujarat.		Prof. Ben Tucker Founding Partner of Minerva LLP, London, UK
	Dr. Rakesh Vir Jasra Senior Vice President (R&D) Reliance Industries Limited, Vadodara		Dr. Chiranjiv Patel MD of P.C. Snehal Group of Companies, Times Men of the Year, 2018
	Dr. Bakulesh Khamar Senior Vice President (Research) Cadila Pharmaceuticals, Ahmedabad		Dr. Daniel Penkar Director, S. B. Patil Institute of Management
	Shri Somenath Ghosh Former Director General National Research and Development Corporation		Dr. Anand K. Tiwari Dean (R & I) Institute of Advanced Research
	Dr. Ruchi Singh Acting Provost, Institute of Advanced Research		Dr. Gurudatt Gaur Dean (Academic), Institute of Advanced Research
	Ms. Tejal Shukla, Head, HR and Administration, Institute of Advanced Research (in attendance)		Mr. Manoj Patel Head of Finance, Institute of Advanced Research
	Dr. Manish Parmar Registrar and Member Secretary, Institute of Advanced Research		

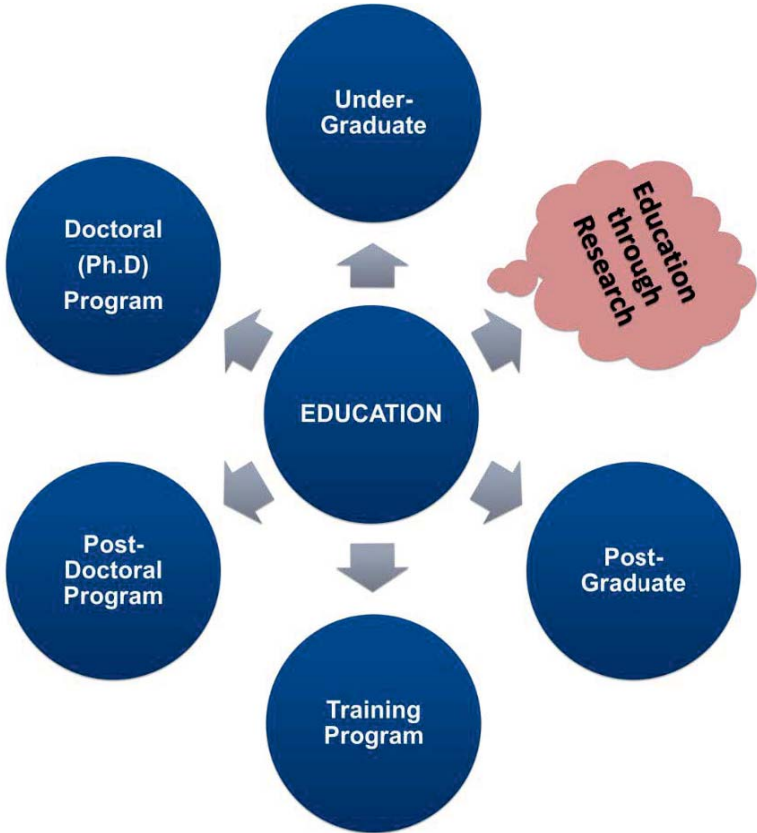
THE BOARD OF MANAGEMENT

No.	Name	Affiliation
1	Chairperson Professor Rao Bhamidimarri	President
2	Member Secretary Dr. Manish Parmar	Registrar
Members		
3	Dr. Ruchi Singh	Acting Provost, IAR, Gandhinagar
4	Dr. Rakesh Vir Jasra	Senior Vice President (R&D), Reliance Industries Limited, Vadodara
5	Dr. Ben Tucker	Founding Partner of Minerva LLP, London, UK
6	Dr. Chiranjiv Patel	MD, P.C. Snehal Group of Companies
7	Dr. Daniel Penkar	Director, Sinhgad Institute of Management, Pune
8	Mr. Anupam Jalote	CEO at iCreate - International Centre for Entrepreneurship and Technology
9	Dr. Suvendu Das	Controller of Examination, IAR, Gandhinagar
10	Dr. Gurudatt Gaur	Dean (Academics), IAR, Gandhinagar
11	Dr. Anand Tiwari	Dean (Research & Innovation), IAR, Gandhinagar
12	Mr. Manoj Patel	Head of Finance, IAR, Gandhinagar
13	Ms. Tejal Shukla	Head (Admin and Marketing), IAR, Gandhinagar
14	Student Member	IAR, Gandhinagar

EDUCATION PHILOSOPHY

Our Educational Philosophy

At IAR, we are dedicated to helping each student achieve their full potential. The expansion of robotics and artificial intelligence in every field of human activity necessitates creative educational methods in today's quickly evolving information environment. We are dedicated to promoting creativity and confidence in our pupils, in addition to providing high-quality education in the selected academic areas. We are convinced that innovative and self-assured graduates will be the most successful in their careers and in life. Our success is measured by the success of our alumni, and we are committed to ensuring that our graduates are the most sought-after by top organizations and universities throughout the world.



RESEARCH AND INNOVATION

IAR aspires to become a world-class research and innovation university by meeting present and future demands in basic sciences, engineering, technology, and the humanities. To boost its research profile, the university invites faculty and other academic personnel to participate in research projects.

Key research areas at IAR:

1) Plasma and its Applications

Industrial applications of plasma include levitation of dust particles, rotating electrode process for the production of micron-size spherical particles of a range of materials comprising metals, de-binding and sintering process, plasma smelting and reduction of ferrous ores fines, and microwave plasma.

Research Lead: Prof. Ganesh Prasad



2) Understanding the molecular details of Neurodegenerative Diseases

Neuro-inflammatory and neurodegenerative disorders, pathophysiological processes, and possible intervention strategies are being led from a range of perspectives.

Research Lead: Dr. Anand K. Tiwari and Dr. Reena Rajput

3) Unlocking the secrets of Cancer

It includes cellular signaling pathways of apoptosis, inflammation as well as their cross-talk, and their implications on cancer. A group is trying to explore the mechanisms of signal integration between inflammasome and other immune pathways.

Research Lead: Dr. Reena Rajput and Dr. Neeru Singh



4) Sensor Development

It involves design and development of nano-sensors to sense the risk of cardiovascular disorders and plant pathogens.

Research Lead: Dr. Alok Pandya

5) Computational Biology

It comprises of distributed information at the sub-center by the Department of Biotechnology, Government of India, for research work in emerging areas of computational biology, structural biology, recombinant therapeutic proteins, and application of machine learning in addition to AI for protein structural analyses.

Research Lead: Dr. Dhaval Patel

6) Plant Biotechnology

The group is exploring the role of chloroplasts and plastid generated reactive oxygen species in abiotic stress-induced programmed cell death. It also involves chemical de-priming and quantitative genetics for disease resistance and yielding improvement in crops.

Resource Lead: Dr. Budhi Sagar Tiwari



7) Novel Synthesis

It takes into account the development of novel peptide synthesis methodologies, peptide based ionic liquids, peptidomimetics, and synthesis of squalamine such as antimicrobial agents.

Research Lead: Dr. Satyendra Mishra and Dr. Roli Mishra

- 8) Cryptography and Cyber Security


It encompasses intrusion detection, wireless sensor networks, and IoT.

Research Lead: Dr. Sunil Gautam
- 9) AI and ML

It covers application of AI for litter detection, image analysis, and ML for Covid-19 diagnosis.

Research Lead: Dr. Sachin Sharma
- 10) Energy and Environmental Technologies

It includes thermal energy storage, energy from waste plastics, carbon dioxide sequestration, and development of novel technologies for industrial effluents, landfill leachate characterization, and treatment, wastewater treatment process modeling and analysis.

Research Lead: Dr. Abhay Dinker
- 
- 11) Nanomaterials

It incorporates nanostructured materials and nanocomposites, nanofibers and applications, as well as light emitting materials.

Research Lead: Dr. Niranjana Patra
- 12) Enterprise Development

It takes into account the economics of education, growth and development, role of innovation in MSME and SME development, and science and entrepreneurship.

Research Lead: Dr. Sharad Kumar
- 13) Developmental Economics

The study is about operational aspects of MSMEs and their impact on financial viability as well as role of industry associations on the development of MSMEs.








Research Lead: Dr. Radha Tiwari

OUR FACULTIES (as on 03.11.2021)









<div><div>Prof. K. S. Ganesh Prasad</div><div>Professor</div><div>Ph.D.: Gujarat University</div><div>Post Doc: IPR, Gujarat; Marseillie, France</div><div>Research Interests: Industrial Plasma Applications, Industrial Electronics, Engineering Product Development</div></div> <div></div>	<div><div>Dr. Abhay Dinker</div><div>Assistant Professor</div><div>Ph.D.: MNIT</div><div>Research Interests: Energy Storage, Simulation, Modeling Green Energy</div></div> <div></div>
<div><div>Dr. Sumit Kumar</div><div>Ph.D.: Central University of Rajasthan</div><div>Research Interests: Product Control Process Central Bayesian</div></div> <div></div>	<div><div>Dr. Ganesh Bajad</div><div>Assistant Professor</div><div>Ph.D.: VNIT</div><div>Research Interests: Synthesis of Nanomaterial, polymer nano composites</div></div> <div></div>
<div><div>Dr. Alok Pandya</div><div>Assistant Professor</div><div>Ph.D.: Gujarat University</div><div>Post Doc: Ahmedabad University</div><div>Research Interests: Nano Chemistry, Nano Biotechnology, Diagnostics Kit Development</div></div> <div></div>	<div><div>Dr. Roli Mishra</div><div>Assistant Professor</div><div>Ph.D.: Allahabad University</div><div>Post Doc: IISC, Bangalore; University of Minnesota, USA; IIT, Delhi</div><div>Research Interests: Novel Synthetic Methodologies, Ionic Liquid</div></div> <div></div>



Dr. Ravi Prakash Chandra Assistant Professor Ph.D.: Gujarat University Research Interests: Supra-molecular Chemistry, Ion Sensing Device, Liquid Crystals		Dr. Satyendra Mishra Assistant Professor Ph.D.: Allahabad University Post Doc: IISC, Bangalore; University of Connecticut, USA; University of Minnesota, USA; IIT, Delhi Research Interests: Organic Synthesis, Medicinal Chemistry	
Dr. Sachin Sharma Assistant Professor Ph.D.: Gujarat Technology University Research Interests: Image Processing, Artificial Intelligence NLP Computer Vision		Dr. Anjali Mishra Assistant Professor Ph.D.: Dr. B R Ambedkar University, Agra Research Interests: BioFuel, Method validation for drugs, Pesticides, formulation and residue analysis	
Dr. Sudhir Bhatt Assistant Professor Ph.D.: University of Pierre and Marie Curie, France Post Doc: Old Dominion University, USA Research Interests: Experimental Plasma Physics, Plasma Medicine Coating and Smart Surfaces, Condensed Matter Physics		Dr. Ishanki Bhardwaj Assistant Professor Ph.D.: IIT Delhi Research Interests: Supramolecular Chemistry, Peptidomimetics	
Dr. Isha Talati Assistant Professor Ph.D.: PDPU, Gujarat Research Interests: Optimization Techniques, Inventory Management, Ship route optimization in ice field		Dr. Sunil Gautam Assistant Professor Ph.D.: ISM Dhanbad, Jharkhand Research Interests: Intrusion Detection Systems Wireless Sensor Network Internet of Things	

Dr. Sudhakar Ingole Assistant Professor Ph.D.: Central University of Gujarat, Gandhinagar Research Interests: Culture Language, Literature		Dr. Arvind Saxena Assistant Professor Ph.D.: PRL, Ahmedabad Post Doc: PRL, Ahmedabad; Oulu University, Finland; University of Latvia, Institute of Atomic Physics and Spectroscopy, Latvia Max-Planck Centre for Attosecond Science, South Korea; IPR, Gandhinagar Research Interests: Experimental Atomics and Plasma Physics	
Dr. Mangilal Choudhary Assistant Professor Ph.D.: IPR, Gujarat Post Doc: JLU, Germany Research Interests: Experimental Plasma Physics, Experimental Dusty Plasma, Low Temperature Plasma		Dr. Tvarit Patel Assistant Professor Ph.D.: IIT, Gandhinagar Research Interests: Min Film Solar Cell, Polymer Composite, Nano Materials	
Dr. Ankit Oza Assistant Professor Ph.D.: PDPU, Gujarat Research Interests: Micro Machining, Non-Traditional Machining, Hybrid Machining Process		Dr. Rachana Gupta Assistant Professor Ph.D.: MNIT, Jaipur Research Interests: Image Processing, Machine Learning, Signal Processing	
Dr. Keyur Patel Ph.D.: IIT-RAM, Research Interests: Control and Robotics, EV Design, Embedded System		Dr. Ashlesha A. Bhise Assistant Professor Ph.D.: Visvesvaraya National Institute of Technology (VNIT), Nagpur Research Interests: Hyperbolic Conservation Laws, Numerical Methods for Scientific Computing	

Mr. Nitin Padariya Lecturer Ph.D.: SPU, Visnagar (Pursuing) Research Interests: IOT in Agriculture Mobile Malware		Dr. Kulandai Arockia Rajesh Packiam Assistant Professor Ph.D.: Monash University, Malaysia Research Interests: Machine Learning in Biotechnology, Bioinformatics, Recombinant Protein Production	
Mr. Mukesh Choubisa Lecturer Ph.D.: IAR, Gandhinagar (pursuing); M.Tech: GECA, Ajmer Research Interests: Internet of Things (IoT), IoT Security, Brain Computer Interface (BCI), MIoT, DBMS		Ms. Divya Dileep Lecturer Ph.D.: Pursuing LIGO INDIA- Gravitational Wave Detector, IAR, Gandhinagar; M.Tech in Optoelectronics and Laser Technology Research Interests: Noise Budgeting (Gravitational Wave Detectors), Laser Interferometers and associated Optics, Dye Laser	
Dr. Abhishek Chandra Assistant Professor Ph.D.: Central University of Gujarat Research Interests: Nanomaterials for sensing and adsorption application, Nanomaterials for drug delivery, Carbon nanomaterials for theranostics application, Luminescent nanomaterials, Interactions of nanoparticles with biomolecules, Molecular interactions in liquid mixtures		Ms. Pooja Rao Lecturer Ph.D.: Pursuing Commerce and Management; Post Graduation in Masters in Human Resource Management (Core specialization in Human Resource); Graduation in Bachelors in Business Management Awards and Achievements: Gold Medalist in Masters in Human Resource Management	
Mrs . Shubhangi Bajad Lecturer Ph.D.: Pursuing (IAR, Gandhinagar) Research Interests: CO ₂ Sequestration, Waste Water Treatment, Electrochemistry		Dr. Sachin Pandey Assistant Professor Ph.D.: IISER, Kolkata Research Interests: Quantum Cosmology and its implications, General Relativity and Gravitations	

Dr. Narendra Kumar Associate Professor and Head Ph.D.: Jiwaji University, Gwalior (M.P.) Post Doc: Jiwaji University, Gwalior (M.P.) Research Interests: Microbial Technology and Environmental Biotechnology		Dr. Reena Agrawal Rajput Associate Professor Ph.D.: NCCS, Pune University Post Doc: B. V. Patel PERD Centre, Ahmedabad; NIPER, Ahmedabad Research Interests: Immunology, Regenratic Medicine	
Dr. Neeru Singh Assistant Professor Ph.D.: Delhi University Post Doc: IIT, Gandhinagar Research Interests: Cancer Biology, Cell Biology, Cancer Therapeutics		Dr. Arpit Shukla Assistant Professor Ph.D.: Gujarat University Research Interests: Agricultural Microbiology	
Dr. G. S. Vishwakarma Assistant Professor Ph.D.: Central University of Punjab Research Interests: Wastewater Treatment, Solid Waste Treatment, Water Quality Monitoring, Bioremediation		Dr. Rakesh Manuka Assistant Professor Ph.D.: Plant Biotechnology (2019), BITS PILANI K.K. Birla Goa Campus Post Doc: Plant Biotechnology (2021), Bhabha Atomic Research Centre (BARC), Mumbai Research Interests: Plant abiotic stress, Plant signaling pathways, Plant Physiology	
Dr. Utpal Bakshi Assistant Professor Ph.D.: Academy of Scientific and Innovative Research (CSIR–IICB), Kolkata, India Post Doc: Mayo Clinic, Rochester, USA Research Interests: Microbiome, Microbial Genomics, Evolution		Dr. Dhaval Patel Assistant Professor Ph.D.: M S University Research Interests: Protein structure and function, Computational Biology, Structural Biology, Bioinformatics	

<p>Dr. Budhi Sagar Tiwari Associate Professor Ph.D.: 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. Tiwari Associate Professor Ph.D.: Banaras Hindu University Post Doc: Indian Institute of Toxiology Research, UP Research Interests: Drosophila Neurobiology Genetics, Dev. Biology</p>	
<p>Dr. Dhara Patel Assistant Professor Ph.D.: Gujarat University Post Doc: Gujarat University, Ahmedabad Research Interests: Agricultural Microbiology, Applied Microbiology</p>		<p>Dr. Laxmidhar Das Assistant Professor Ph.D.: Banaras Hindu University, Varanasi, Uttar Pradesh, India Research Interests: Oxidative stress in Cancer and Cancer Angiogenesis, Regulation of EMT in Cancer Progression, Antioxidants and Redox Signaling, Elucidating anti-cancer properties of Natural Phytochemicals, Epigenetic regulation in Cancer</p>	
<p>Dr. Sharad Kumar Assistant Professor Ph.D.: IIT Kharagpur Research Interests: Entrepreneurship, Healthcare Management</p>		<p>Dr. Radha Tiwari Assistant Professor Ph.D.: CSJM University Research Interests: Developmental Economics, Endogenous Factor Analysis</p>	
<p>Dr. Dhara Rathod Assistant Professor Ph.D.: Bhavnagar University Research Interests: Psycholinguistic Feminism Partition Fiction</p>		<p>Dr. Ankita Joshi Assistant Professor Ph.D.: DAVV, Indore Research Interests: Students migration for higher education, Internal and International Migration, Rural-urban youth migration related to studies</p>	

<p>Dr. Niranjana Patra Assistant Professor Ph.D.: University of Genova Post Doc: Imperial College, University of Wyoming, USA; Friedrich-Alexander University Erlangen, Germany; Technical University of Liberec, Czech Republic Research Interests: Additive manufacturing (3D printing) of materials</p>		<p>Dr. Rajesh Handa Assistant Professor Ph.D.: Gujarat Technical University Research Interests: Economic Policies</p>	
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University Employee Details

Total Teaching Staff Details:

Name of Department	Professor	Associate Professor	Assistant Professor	Lecturer	Total
Department of Biological Sciences	00	04	08	00	12
Department of Engineering and Physical Sciences	01	00	24	04	29
Department of Business and Management	00	00	07	01	08
Total	01	04	39	05	49

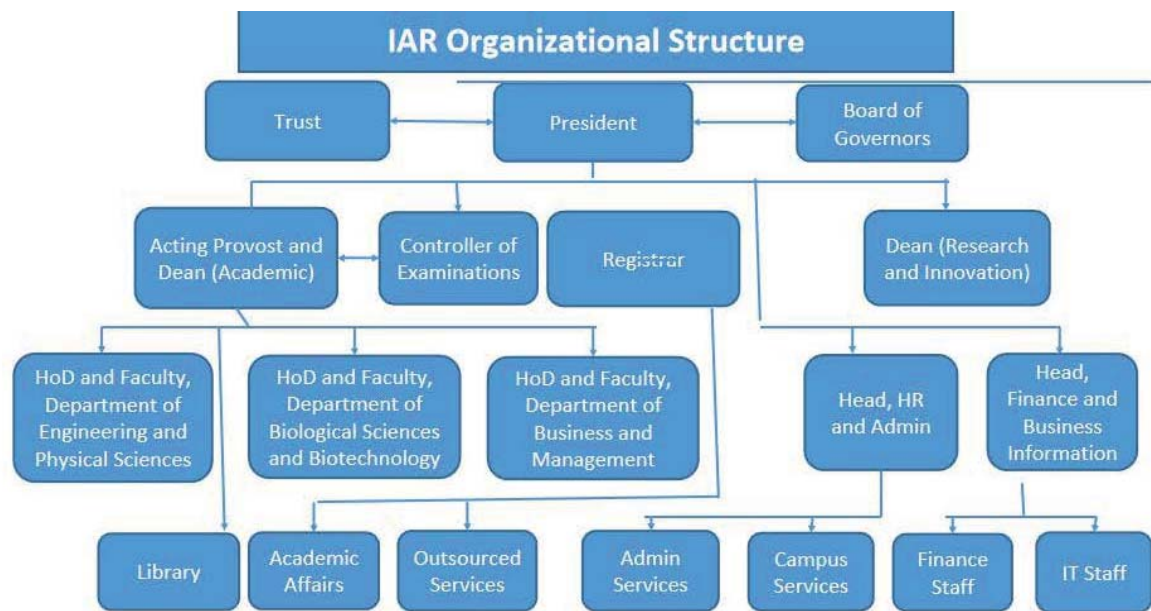
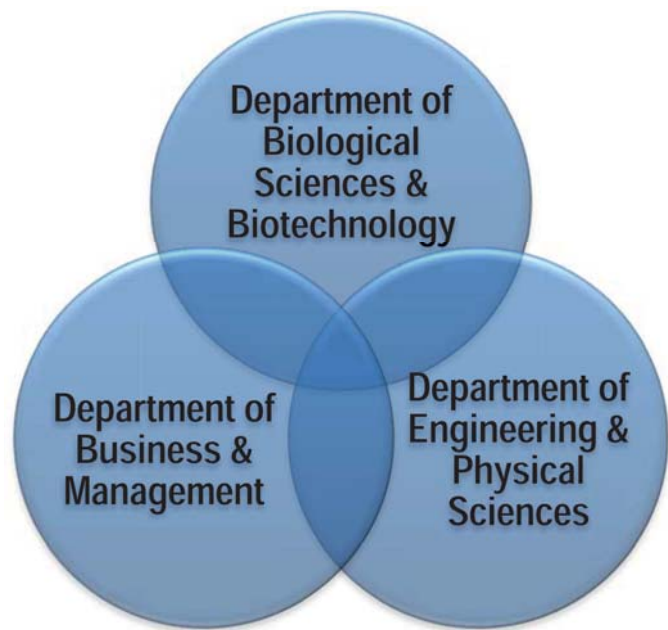
Total Administrative Staff : 15

Total Number of Employees : 64

Total Contractual Staff : 29

ACADEMIC DEPARTMENTS

The University is divided into three academic departments: Biological Sciences and Biotechnology, Engineering and Physical Sciences, and Business and Management. Each department is managed by a Head of Department (HoD). All departments are currently housed in the main building. In addition to HoDs, the university has two Deans – Dean (Academic) and Dean (Research and Innovation) who are responsible for the quality of education and research at the university.



ACADEMIC PROGRAMS

The University offers undergraduate, postgraduate and Ph.D. programs in Sciences, Engineering, Management, and Economics run by our academic departments.

- Biological Sciences 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, and a lot more.

Undergraduate Courses

There is a reason why our programs are so popular among high-achieving students and our alumni are so well-received by employers and other institutions of higher learning. The Institute of Advanced Research is a nationally known university for world-level research in a few fields and instruction is well-rounded and customized with small class sizes.

IAR offers a variety of courses and programs in Engineering, Sciences, and Business Administration and Management, whether our students want to expand their knowledge or pursue professionally focused and employment-oriented studies. Our courses are designed to help students gain in-depth knowledge in a certain subject of study while also developing skills that are useful in the workplace, such as creativity, effective communication, commercial awareness, and analytical and critical thinking. Some of our courses are geared toward professional development, while others are more focused on improving research skills and advancing 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 (B.Tech.) programs are currently offered in the following disciplines:

- Computer Engineering
- Information Technology
- ICT
- Chemical Engineering
- Biotechnology
- Mechanical Engineering
- Electrical and Electronics

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

Bachelor of Science or B.Sc. programs are the 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, and 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 (B.Sc.) programs are currently offered in the following disciplines:

- B.Sc. (Hons.) Chemistry
- B.Sc. (Hons.) Physics
- B.Sc. (Physical Sciences)
- B.Sc. (Hons.) Biotechnology
- B.Sc. (Hons.) Microbiology
- B.Sc. (Life Sciences)



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

The Bachelor of Business Administration (BBA) is one of the most popular undergraduate programs in the field of business administration. Graduates learn about a wide range of topics related to business administration, equipping them with the knowledge and abilities needed for a variety of careers in business management and administration.

The following BBA programs are available:

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



1.3.2 Postgraduate Courses

The Institute of Advanced Research (IAR) is a premier university for high-quality postgraduate education thanks to its strong research culture. Postgraduate education has become increasingly crucial in today's fast changing knowledge environment. Employers are increasingly seeking advanced expertise, whether it is to understand difficult technical problems or to operate efficiently in today's worldwide corporate climate.

At master's level, students gain advanced knowledge in their chosen field of study as well as it interlinks with other 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 master's graduates for exciting careers. Typically, master's degrees last two years or four semesters and need 80 academic credits, including 20 credits for project work.

Master of Science (M.Sc.) - 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 PhD.

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

- Biotechnology
- Microbiology
- Physics
- Molecular Medicine
- Industrial Biotechnology
- Environmental Science and Technology
- Applied Physics
- Chemistry (Organic/Analytical/Industrial)
- Material Science
- Data Science



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

Executive MBA

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 and Finance

Doctoral Program

One of the most essential parts of the Institute of Advanced Research is the education and training of PhD students. We offer PhD programs in all sciences, engineering, and business fields.

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 UGC, CSIR, ICMR, MHRD, DST, SERB, and DBT.



ACADEMIC INFRASTRUCTURE

Teaching Laboratories

IAR is equipped with a number of dedicated teaching laboratories alongside 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 with 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, our students are given the opportunity to present their work orally to selected panels of faculty members.



Postgraduate Chemistry Laboratory



Physics Laboratory

Computer Laboratories

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



Engineering Laboratories and Workshops

IAR has 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 subscription of National Digital Library and World eBook Library.



Team Learning Space in the Library



Reference Collections

ACADEMIC OUTREACH

Department of Biological Science and Biotechnology conducted webinars on Bloom's Taxonomy, Outcome Based Education, Molecular Docking and Molecular Dynamics, Genomics and Personalized Healthcare, and Next-Generation Sequencing. Department of Engineering and Physical Sciences conducted webinars to create career awareness in Nanoscience and Materials Science.

Extra and Co-curricular activities

Sr. No.	EVENT NAME	DATE OF EVENT
1	Constitution Day Celebration	21 /11/2020
2	Republic Day Celebration	26/01/2021
3	Women's Day Celebration	06/03/2021
4	International Yoga Day at IAR	21/06/2021

Constitution Day Celebration on November 26, 2020

The Indian Constitution is the cornerstone of Indian democracy. Being the world's largest democracy, India's existence and successful survival in such a diversified environment is something to be proud of. Every year on November 26th, Constitution Day is observed around the country to emphasize the relevance and value of our constitution. On November 26, 2020, the IAR commemorated the 71st anniversary of its founding. This day is observed to commemorate the adoption of the Indian Constitution and to honor the contributions of the Constitution's founding fathers. Dr. Ruchi Singh, Acting Provost IAR, led the festivities. Dr. Ruchi Singh, HoD (Department of Biological Sciences and Biotechnology) read the PREAMBLE of the constitution in Hindi and Dr. Preeti Desai, HoD (Department of Biological Sciences and Biotechnology) read it in English to start the ceremony. The PREAMBLE was read in two languages to reflect the writing down of the Constitution in two languages. The event was attended by university teaching and non-teaching professionals, as well as Ph.D. students. Students in the undergraduate and graduate programs were encouraged to participate in the virtual celebration and to watch the Honorable President of India's address live on DD News. The entire event was planned in strict accordance with Pandemic procedures.

Date of Event: 26th November, 2021

Number of Participants: 32

Event Coordinator: Mrs. Divya Dileep



72nd Republic Day Celebration on January 26, 2021

On the 26th of January 2021, the 72nd Republic Day was commemorated with seriousness and splendor at Gandhinagar's Institute of Advanced Research. The staff and students (Ph.D.) saluted the National Flag and vowed to defend the honor, integrity, diversity, and originality of "India."


Republic Day celebration started with the parade by security personals of IAR. The national flag was unfurled by our Honorable President Prof. Rao Bhamidimarri, which was followed by a message from him to all the attendees. The message of the Day was rendered by Dr.Ruchi Singh (Acting Provost, IAR).

The celebration included speech, poetry recitation, and song. Each performance was in tune with the theme of the day, glorifying the sacrifices of our freedom fighters. Refreshment was arranged for all the attendees. The event was conducted maintaining Covid protocols.

Date of event: January 26, 2021

Number of Participants: 85

Event Coordinator: Mrs. Divya Dileep

 Institute of Advanced Research The University for Innovation	
72 ND REPUBLIC DAY CELEBRATION	
8:50 Am	Reporting Time- Academic block
9:00 Am	Parade – Security Personnel
9:10 Am	Flag Hoisting & Presidential Address – Prof. Rao Bhamidimarri
9:25 Am	Republic Day message – Dr. Ruchi Singh
9:30 Am	Speech – Dr. Anand Tiwari
9: 40 Am	Poetry – Divya Tarwadi
9:45 Am	Republic Day Message – Dr. Gurudatt Gaur
9:50 Am	Speech – Dhruv Mamotra
9:55 Am	Poetry – Dr. Sharad Kumar
9:50 Am	Vote of Thanks – Mr. Manoj Patel
10:00 Am	Refreshment





Women's Day Celebration

Felicitating Women Achievers in Allied Fields – March 6, 2021

International Women's Day is a worldwide event that honors women's social, economic, cultural, and political achievements. The day also serves as a call to action for achieving gender parity sooner rather than later. Globally, there is a lot of activity as people join together to celebrate women's accomplishments or to march for women's equality.

We planned an event on March 6, 2021 to honor women's achievements. This event honors female achievers who have led by example through their hard work and dedication. This event was dedicated to recognizing high achievers and assisting the next generation in realizing the possibilities of hard work and devotion.

Through this event we had felicitated women achievers who have left their mark of success in their respective fields of work. During the event, the felicitated achievers shared their success story with the audience and interacted with our students. Due to the prevailing pandemic, the event was organized on online platform (ZOOM).

The following **Women Achievers** were felicitated during the occasion:

1. Women Achievers Award (Technology)
Mrs. Pallavi Mahajan, VP, HPE INDIA
2. Women Achievers Award (Politics)
Mrs. Ritaben K. Patel, Mayor, Gandhinagar Municipal Corporation

3. Women Achievers Award (Defense)
Squadron Leader Swapna Balyan (Retd.)
Indian Air Force
4. Women Achievers Award (Defense)
Deputy Commandant Anuradha Shukla, Indian Coast Guard
5. Women Achievers Award (Entrepreneur)
Shilpa Malik, Founder, BioScan

Total Number of Participants: 50

Event Coordinator: Mrs. Divya Dileep

6th
MARCH, 2021
11.00 AM - 12.30 PM

HAPPY
Women's
DAY

INSTITUTE OF ADVANCED RESEARCH
The University for Innovation

Felicitating Women Achievers in Allied Fields

Patron
Professor Rao Bhamidimarri
President, IAR - Gandhinagar

Ritaben K Patel
Mayor,
Gandhinagar Municipal Corporation

Pallavi Mahajan
Vice President, HPE INDIA

Swapna Balyan
Squadron Leader (Retd.) ,
Indian Air Force

Shilpa Malik
Founder, BioScan

Anuradha Shukla
Deputy Commandant,
Indian Coast Guard

Conveners
Mrs. Divya Dileep
Dr.Alok Pandya

Innovation Partner

Scan this QR Code
to join event
OR
Join using link: <http://bit.ly/iarwomensday>

Join Live Stream on:
<https://www.facebook.com/UniversityIAR/>

Koba Institutional Area, Gandhinagar - 382426,
Gujarat - India.
Contact: 079-30514163/106, E-Mail: contact@iar.ac.in

International Yoga Day at IAR - June 21, 2021

India's gift to the world in terms of health, wellness, and peace is yoga. Yoga is similar to music. The lovely Symphony of Life is created by the rhythm of the body, the melody of the mind, and the harmony of the soul.

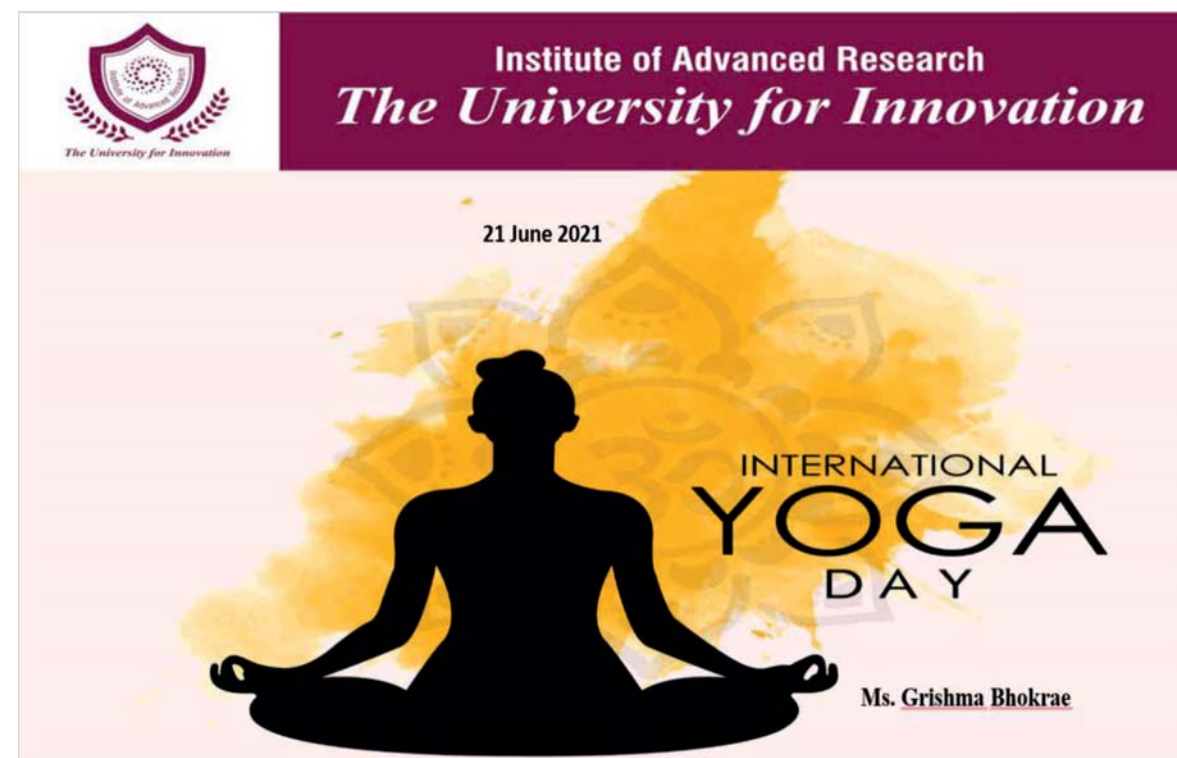
To be true to Iyengar's teachings, "Yoga is a light that once lighted, never dims. The brighter the flame, the better your practise", IAR held a yoga session for its staff and students on June 21, 2021. Ms. Grishma Bhokrae, a yoga trainer with over 7 years of expertise in the discipline, led the program. She represented India in International Yoga Competition and was ranked among the top ten contestants.

Pertaining to the Covid protocols set by the government, the event was organized following all the mandatory precautions. The event was conducted online on Zoom platform and the same was streamed live on University Facebook page.

The 2 hour session commenced with a message of the day by Dr. Manish Parmar, Registrar IAR followed by the yoga session led by Ms. Grishma. The event was organized to familiarize the young generation about the benefits of yoga. Throughout the session the trainer explained the advantages of each asana and stressed upon the importance of leading a healthy life style.

Date of event: 21 June, 2021

Number of Participants – 130



INFRASTRUCTURE AND FACILITIES

Residences and Hostels

Limited number of hostel accommodation including AC and Non AC is available for students inside the campus. Separate hostels are available for male and female students. Hostel accommodation is provided on sharing basis. Furniture and other essential facilities are provided to hostel residents. The accommodation has 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 at a distance of 5 minutes 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 wherein Indian vegetarian meals are served. Canteen facilities are also available for all staff members and students of the university.

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.

Gym Facilities for the Students and Staff



Internet

Broadband internet access is available across the university campus, including the main building, student social rooms, and the dormitory complex. Higher bandwidth connections are available to students for a fee.

Transport

To get to the airport, railway stations, and bus stops, taxis and auto-rickshaws are available. Through collaboration with a nearby university, the university provides transportation for students coming from Ahmedabad and Gandhinagar for a fee. The university features a bus service that students can use to get to the campus.

Equipments available for Research and Education

Fluorescence Microscope	Shaker Incubator
Confocal Microscope	Acta Prime Protein Purification
High Computing Cluster System	Fluorimeter
Real Time Pcr	Milliq Water Plant
Multiplex Pcr	Refrigerated Centrifuge
Gel Documentation System	Ultracentrifuge
Multimode Plate Reader	Pulse-Field Gel Electrophoresis
Anemometer/Co ₂ analyzer	Gas Chromatography
Uv- Vis Spectrophotometer	Automated Cell Counter
Deep Freezers	Binocular Microscopes
Co ₂ Incubators	Biosafety Cabinet (6 No.)
-80 Degrees Centigrade Freezer	Hplc
Electrophoresis Chamber	Flow Cytometer
Electroporator Gene Pulser	Centrifuges
Elisa Plate Reader	Cell Sonicator
Eporator	Spectro-Fluorimeter
Ice Machine	Ion Exchange Water Plant
Lyophilizer	Leunomemter
Microscope (Inverted Phase Contrast)	Microscope Inverted Fluroscence
Pyrosequencing	Spectrophotometer (Nanodrop)
Shell And Tube Heat Exchangert	Falling Film Evaporator
Distillation Column	Fluid Mechanics
Bernoulis’s Apparatus	Hot Plate And Termal Conductivity Meter
Vle Apparatus	Continuous Reactors In Series
Venturi Meter	Fluid Flow In Pipes
Absorption Column	Liquid-Liquid Extraction
Multiprocess Apparatus	Control Valve Experimental Rig
Sieve Shaker	Ball Mill
Lathe Machines	Furnace
Hardness Tester	Universal Testing Machine
Hardness Tester	Welding Machine
Plasma Generator	Pump Characteristics Rig

RESEARCH PROGRAMS, OUTPUTS, AND OUTCOMES

New Project Proposals Submitted

Sr. No.	Title	Name of PI/Co-PI	Role	Proposed Budget (in Lakh)	Funding Agency and Scheme
Biological Sciences & Biotechnology					
1	Design and validation of miR200 as a novel therapeutic strategy against drug resistant ovarian carcinomas	Dr. Neeru Singh	PI	27.75	SERB, New Delhi, <i>Core Research Grant</i>
2	Characterization of generation of peroxynitrite during cross reaction of reactive oxygen and nitrogen species within cell and its role in salinity induced Programmed Cell Death in Pea (Pisum Sativum)	Dr. Budhi Sagar Tiwari	PI	45.6	SERB, New Delhi, <i>Core Research Grant</i>
3	Assessing EPS-Thorium complexation by thoriotolerant bacteria	Dr. Arpit Shukla	PI	20.0	SERB, <i>Start-up Research Grant</i>
4	HIV-1 Nef macrophage mediated neurodegeneration with mitochondrial implications: mechanisms and therapeutic approaches	Dr. Reshu Saxena	PI	28.0	Ignite Life Science Foundation- <i>Ignite Fast Grant Award</i>
5	Wealth out of waste: Production of thermostable polyhydroxyalkoanates using agrowaste	Dr. Dhara Patel and Dr. Arpit Shukla	PI Co-PI	25.3	GUJCOST
Engineering and Physical Sciences					
6	Characterization of generation of peroxynitrite during cross reaction of reactive oxygen and nitrogen species within cell and its role in salinity induced programmed cell death in pea (Pisum Sativum)	Dr. Satyendra Mishra (PI) and Dr. Reena Rajput (CO-PI)	PI	28.88	SERB, New Delhi <i>Core Research Grant</i>

7	Development and study of shell and tube type thermal storage battery for thermal energy storage from industrial and solar thermal sources"	Dr. Abhay Dinker	PI	28.85	SERB, New Delhi, <i>Core Research Grant</i>
8	Development of high-temperature and high-resilience SiOC/SiC-Transition Metal Carbide Ceramic Microcomponents via 3D Printing (Stereolithography)	Dr. Niranjan Patra	PI	28.85	SERB, New Delhi, <i>Core Research Grant</i>
9	Air quality prediction of Ahmedabad region: Through Machine Learning Approach using a MultiObjective GA Optimization	Dr. Isha Talati	Co-PI	17.42	SERB, New Delhi, <i>Core Research Grant</i>
10	Redox-active and conducting polymer nanocomposite electrodes for the electrosorption based wastewater treatment: A pilot scale approach using flexible moving electrodes	Dr. Ganesh Bajad		51.53	SERB, New Delhi, <i>Core Research Grant</i>
11	Electrochemical CO2 capture and solvent regeneration with electric production	Ms. Shubhangi Ganesh Bajad along with Dr. Sudhanshu Sharma, IIT Gandhinagar		7.5 Lakh (IAR) & 7.5 IIT, Gandhinagar	SERB, New Delhi, <i>SITARE</i>
12	Rapid multiplexed food adulterants detection using smart nano-device	Dr. Alok Pandya (Co-PI) along with Dr. Ritesh Shukla (PI)	Co-PI	10.50 for IAR	Ministry of Home Affairs Government of India
Total No. of Grant Submitted: 12		Total Proposed Amount (In Lakh): 320.18			

SERB: Scientific Extramural Research Board, New Delhi; GUJCOST: Gujarat Council of Science and Technology

THRIVING RESEARCH ENVIRONMENT

Ongoing Research Grants

Sr. No.	Title of Grant	Faculty Name	Role (PI/Co-PI)	Grant (In Lakh)	Award Year	Funding Agency
Department of Biological Sciences and Biotechnology						
1	Repositioning Doxycycline as Anti-Cancer Therapy and Exploring its Synergy with extracellular ATP manipulation in Breast Cancer: Pre-Clinical and Early Clinical Exploration	Dr. Reena Rajput	PI	52.58836	2021	GSBTM Gujarat
2	Identification and validation of potential phytochemicals against proteases (3CLpro/Mpro) of SARS-CoV-2 using combined computational and experimental tools	Dr. Dhaval Patel	PI	11.22543	2021	GSBTM Gujarat
3	cFMS kinase blockade for Macrophage subset-2 (M2)depletion as a potential immunotherapeutic strategy for antibiotic induced Immunosuppression Collaborative Grant (Inter-organization)	Dr. Reena Rajput	PI	30.96500	2020	SERB 2020
4	Characterization and assessment of solid waste, leachate and ground water quality at pirana	Dr. G.S. Vishwakarma	PI	9.69	2019	GSBTM Gujarat
5	Novel role of MDC1 in autophagy and its implications in cancer therapy	Dr. Neeru Singh	PI	1:00	2021	IAR (Seed Grant)
Department of Engineering and Physical Sciences						
6)	Design and development of bio-inspired multi-layered membrane for Industrial wastewater treatment” (Inter-departmental Research Grant)	Dr Alok Pandya; Dr. GS Vishwak arma; Dr. Dhaval Patel	PI Co-PI Co-PI	38.41	2020	DST, New Delhi
7)	Self-Sanitizing plasma modulated nonwoven fabrics with a nanostructure for rapid killing of pathogenic virus	Dr. Niranjan Patra	PI	1.0	2021	IAR (Seed Grant)

8)	Development of packed bed thermal storage unit using encapsulated thermal storage materials	Dr. Abhay Dinker	PI	1.0	2021	IAR (Seed Grant)
9)	Conducting polymer nanocomposite electrodes for the Electrosorption based wastewater treatment	Dr. Ganesh Bajad	PI	1.0	2021	IAR (Seed Grant)
Total Ongoing Grant: 9		Total Sanctioned Amount: 146.88 Lakh				

SERB: Scientific Extramural Research Board, New Delhi; GSBTM: Gujarat State Biotechnology Mission; DST: Department of Science & Technology, IAR: Institute of Advanced Research

Funded Projects - Completed

Sr. No.	Title	Name of PI/Co-PI	Role	Budget	Year Approved	Funding Agency
1	Involvement of chloroplasts in oxidative stress-induced Programmed Cell Death (PCD): characterization of cytochrome f release from chloroplast and its interacting partners involved in cell death process	Dr. B.S. Tiwari	PI	30.0	2018	SERB, New Delhi
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	44.42	2018	SERB, New Delhi
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	27.2	2018	SERB, New Delhi

SERB: Scientific Extramural Research Board

Infrastructure Grants

- FIST Grant to Department of Biological Sciences and Biotechnology**
Department of Biological Sciences and Biotechnology, Institute of Advanced Research Gandhinagar has received a Fund of 69 lakhs for Improvement of S & T Infrastructure (FIST), from the Department of Science and Technology (DST), Government of India.

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



Image: GUJCIOST Supported Supercomputer Facility at IAR Gandhinagar

Ph.D. students

Department of Biological Science and Biotechnology			
Sr. No.	Name of Ph.D. Scholar	Reg. No.	Supervisor
1	Ms. Bhatt Vidhiben Dhavalkumar	UIAR/11080	Dr. Anand K. Tiwari
2	Ms. Pooja Prashant Doshi	UIAR/11106	Dr. Dhaval Patel
3	Ms. Bhatt Manasi Ashokbhai	UIAR/10811	Dr. Budhi Sagar Tiwari
4	Ms. Rohi Tusharkumar Bhatt	UAIR/11073	Dr. Budhi Sagar Tiwari
5	Ms. Shah Dhruvi Urmilbhai	UIAR/10812	Dr. Reena Rajput
6	Mr. Naveen C R	UAIR/10839	Dr. Reena Rajput
7	Mr. Parameswar Dalai	UIAR/11356	Dr. Reena Rajput
8	Ms. Shivani Yadav	UIAR/11368	Dr. Reena Rajput
9	Ms. Hima Vatsal Vora	IAR/11590	Dr. Reena Rajput

10	Mr. Sachinkumar Amrutlal Vaidh	IAR/11591	Dr. Gajendra Singh
11	Ms. Anushree Ashok Kamath	IAR/11603	Dr. Dhara Patel
12	Mr. Bhargav Prakashchandra Pandya	IAR/11605	Dr. Dhaval Patel
13	Ms. Divyaben Kamleshbhai Tarwadi	IAR/11607	Dr. Budhi Sagar Tiwari
14	Mr. Rajkishansinh Raghuvirsinh Thakor	IAR/11581	Dr. Dhaval Patel
15	Ms. Pandya Kavya Ajit	IAR/11999	Dr. Neeru Singh
16	Ms. Dharni Mukeshkumar Parekh	IAR/12000	Dr. Gajendra Singh
17	Ms. Sagarika Saha	IAR/11988	Dr. Anand K. Tiwari
Business and Management			
Sr. No.	Name of Ph.D. Scholar	Reg. No.	Supervisor
1	Mr. Mithileshkumar Hiteshwar Singh	IAR/11588	Prof. Rao Bhamidimarri
2	Mr. Priteshkumar Satishbhai Patil	IAR/11589	Dr. Sharad Kumar
3	Mr. Rupesh Maheshprasad Kumar	IAR/11602	Prof. Rao Bhamidimarri
4	Mr. Aarsheykumar Pankajkumar Shah	IAR/11604	Prof. Rao Bhamidimarri
5	Mrs. Madhubanti Joydutta Dutta	IAR/11617	Prof. Rao Bhamidimarri
6	Mr. Kalpesh Vithlani	IAR/12001	To be allocated
7	Mr. Jay Pandya	IAR/11970	To be allocated
8	Mr. Amit Rupela	IAR/11971	To be allocated
Engineering and Physical Sciences			
Sr. No.	Name of Ph.D. Scholar	Reg. No.	Supervisor
1	Mr. Verma Chetan	UAIR/10817	Dr. Sachin Sharma
2	Ms. Chandani Halpani	UIAR/11382	Dr. Satyendra Mishra
3	Ms. Sejal Patel	UIAR/11807	Dr. Satyendra Mishra
4	Ms. Patel Nidhi Miteshbhai	UIAR/11381	Prof. Ganesh Prasad
5	Mr. Dipakkumar Amrutbhai Bariya	IAR/11571	Dr. Satyendra Mishra

6	Mr. Yash Bhagawatprasad Barot	IAR/11572	Dr. Roli Mishra
7	Mr. Azriel Anthony Henry	IAR/11593	Dr. Sunil Gautam
8	Mrs. Divya Dileep	IAR/11599	Prof. Suresh Doravari and Dr. Arvind Saxena (Co-Supervisor)
9	Ms. Shubhangi Rajendrarao Deshmukh	IAR/11601	Prof. Rao Bhamidimarri
10	Ms. Nidhi Vijay Verma	IAR/11606	Dr. Alok Pandya
11	Ms. Rani Vinod Gupta	IAR/11653	Dr. Ganesh Bajad
12	Ms. Sushmita Anilkumar Mishra	IAR/11573	Prof. Ganesh Prasad
13	Mr. Mukesh Choubisa	UIAR/17190	Dr. Sunil Gautam
14	Ms. Nidhi Dubey	UIAR/11981	Dr. Sachin Sharma
15	Ms. Ketaki Anandkumar Pattani	UIAR/16283	Dr. Sunil Gautam
16	Mr. Prabhudutta Ray	UIAR/11973	Dr. Sachin Sharma
17	Mr. Saurabh Vyas	UIAR/12062	Dr. Roli Mishra




Total No. of Ph.D. students: 17 (DBSB) +8 (DBM) +17 (DEPS) =42

List of Students Successfully Defended their Theses

Sr. No.	Name of Student	Registration No.	Supervisor	Title of Thesis
1)	Mr. Vipin Tomar	UIAR/11078	Dr. Budhi Sagar Tiwari	Identification of novel SNPs (allele) associated with resistance to spot blotch in Wheat (<i>T. aestivum</i> L)
2)	Ms. Kushwaha Manisha	UIAR/10813	Dr. Radha Tiwari	Public Expenditure on Education: A Macroeconomics Analysis of Fund Allocation and Policy Implementation in Gujarat
3)	Mr. Thakkar Himanshu Dahyabhai	UIAR/10814	Dr. Radha Tiwari	An Empirical Assessment on the role of Federation of Industries and Associations in the sustainable development of Micro Small and Medium Enterprises in Gujarat

4)	Mr. Snehkrishn Aniruddha Chaubey	UIAR/10809	Dr. Roli Mishra	Design, synthesis and application of amino acid based ionic liquids in organic synthesis
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PhD Completions

Sr. No.	Name of Student	Registration No.	Supervisor	Title of Thesis
1)	Komal Rajendra kumar 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)	Priyadarshi Khushbu Jashvant bhai 	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)	Foram Vaidya 	UAIR/10599	Dr. Chandramani Pathak	Biological evaluation of Nano formulated anti-cancer agents: A multifaceted approach to improve bioavailability, multi drug resistance and apoptotic cell death

Publications

Sr. No.	Publication Type	DBSB	DEPS	DBM	Total
1)	Research Article	11	09	2	25
2)	Review Article	07	04	1	13
3)	Book Chapter/Conference Proceedings	02	08	3	07
Total		20	21	6	47

Details of Publications:

Department of Biological Sciences and Biotechnology (DBSB) (20)

1. V Nidhi; **P Dhaval**; P Alok. (2020) Emerging diagnostic tools for detection of COVID-19 and perspective. *Biomedical Microdevices.*, 22 (83). (Review Article)
2. **Shukla, A.**, Jani, N., Polra, M., Kamath, A., &**Patel, D.** (2021). CRISPR: The Multidrug Resistance Endgame?. *Molecular biotechnology*, 1-10. (Review article).
3. Parashar, A., **Shukla, A.**, Sharma, A., Behl, T., Goswami, D., & Mehta, V. (2021). Reckoning γ -Glutamyl-S-allylcysteine as a potential Main protease (Mpro) inhibitor of novel SARS-CoV-2 virus identified using docking and molecular dynamics simulation. *Drug Development and Industrial Pharmacy*, (Research article)
4. Jha, C. K., Sharma, P., **Shukla, A.**, Parmar, P., Patel, R., Goswami, D., & Saraf, M. (2021). Microbial enzyme, 1-aminocyclopropane-1-carboxylic acid (ACC) deaminase: An elixir for plant under stress.*Physiological and molecular plant pathology*. (Research article)
5. Parmar, P., Rao, P., Sharma, A., **Shukla, A.**, Rawal, R. M., Saraf, M., Patel, B., & Goswami, D. (2021). Meticulous assessment of natural compounds from NPASS database for identifying analogue of GRL0617, the only known inhibitor for SARS-CoV2 papain-like protease (PLpro) using rigorous computational workflow. *Molecular diversity*. (Research article)
6. Rao, P., Patel, R., **Shukla, A.**, Parmar, P., Rawal, R.M., Saraf, M., & Goswami, D. (2021). Identifying structural-functional analogue of GRL0617, the only well-established inhibitor for papain-like protease (PLpro) of SARS-CoV2 from the pool of fungal metabolites using docking and molecular dynamics simulation. *Molecular diversity*, 1-21.(Research article)
7. **Shukla, A.**, Parmar, P., Goswami, D., Patel, B., & Saraf, M. (2021). Exemplifying an archetypal Thorium-EPS complexation by novel thoriotolerant *Providencia thoriotolerans* AM3. *Scientific Reports*, 11:3189, 1-15. (Research article)
8. **Shukla, A.**, Parmar, P., Kapoor, G., Goswami, D., Jha, C. K., Patel, B., & Saraf, M. (2021). Curse of La Corona: unravelling the scientific and psychological conundrums of the 21st century pandemic. *Molecular diversity*, 1-14. (Review article)
9. Prajapati, K., Nayak, R., **Shukla, A.**, Parmar, P., Goswami, D., & Saraf, M. (2021). Polyhydroxyalkanoates: An Exotic Gleam in the Gloomy Tale of Plastics. *Journal of Polymers and the Environment*, 1-20. (Review article)

10. Challagundla N, **Rajput RA. (2021).** microRNAs (miR 9, 124, 155 and 224) transdifferentiate mouse macrophages to neurons. *Experimental Cell Research*, Volume 402, Issue 1, 112563. **(Research Article)**
11. Bhatt M, Pandey SS, Tiwari AK, **Tiwari BS. (2021).** Plastid mediated Singlet Oxygen in Regulated Cell Death. **Plant Biology.** (*German Society for Plant Sciences and The Royal Botanical Society of the Netherlands*). **(Review Article)**
12. Tomar V, Guriqbal Singh Dhillon GS, Singh D, Singh RP, Poland J, Joshi AK, **Tiwari BS, Kumar U (2021)** Elucidating SNP-based genetic diversity and population structure of advanced breeding lines of bread wheat (*Triticum aestivum* L.). **Peer J** 9, e11593. **(Research Article)**
13. Waghela B, Vaidya F, Chhipa AS, Ranjan K, **Tiwari BS, Pathak CM. (2021).** Age-rage synergy influences programmed cell death signaling to promote cancer.*Molecular & Cellular Biochemistry*, **476 (2)**, 585-598. **(Review Article)**
14. Tomar V, Singh D, Singh RP, Poland J, Joshi AK, Singh G D, Singh PK, Kumar S, Rahman MM, **Tiwari BS, Kumar U (2021).** New QTLs for spot blotch disease resistance in wheat (*Triticum aestivum* L.) using genome-wide association mapping. **Frontiers in Genetics.** 11, PMCID: PMC7841440. **(Research Article)**
15. Padh H, **Desai P**, Sharma D and Yagnik B. **(2021).** EpiMix Based Novel Vaccine Candidate for Shigella: Evidence of Prophylactic immunity in Balb/c Mice. **International Journal of Peptide Research and Therapeutics-** **(Accepted).** DOI10.1007/s10989-020-10153-0. **(Research Article)**
16. **Manuka R**, Ashok Saddhe Ankush, Srivastava AK, KumarKundan Penna S. **(2021).** Overexpression of rice OsWNK9 promotes Arsenite tolerance in transgenic Arabidopsis plants. *Journal of Biotechnology*, **332**, 114-125. **(Research Article)**
17. Ayele A., **Suresh A.**, Benor S. **(2021).** Phycoremediation of Heavy Metals, Factors Involved and Mechanisms Related to Functional Groups in the Algae Cell Surface – A Review. In: Aravind J., Kamaraj M., Prashanthi Devi M., Rajakumar S. (eds) *Strategies and Tools for Pollutant Mitigation*. Springer, Cham. https://doi.org/10.1007/978-3-030-63575-6_13 **(Book Chapter)**
18. Pandya A, Shah K, Prajapati H and **Vishwakarma G S, (2021).** GQD embedded bacterial cellulose nanopaper based multi-layered filtration membrane assembly for industrial dye and heavy metal removal in wastewater, *Cellulose*. **(Research Article)** (In press)

19. Panchal K, **Tiwari AK. (2021).** Miro (mitochondrial Rho GTPase), a key player of mitochondrial axonal transport and mitochondrial dynamics in neurodegenerative diseases. *Mitochondrion*. 56:118-135. doi: 10.1016/j.mito.2020.10.005. **(Review Article)**
20. Challagundla N, Rokkam P, Zala D, Rakesh R, **Rajput RA (2021).** Chlamydia trachomatis alters p53 in epithelial cells and manipulates host cell lipid metabolism and CD40 signalling polarizing anti-inflammatory macrophages. *Molecular Biology of the Cell*, 31, No.26; doi: 10.1091/mbc. E20-10-0665 **(Conference proceeding)**

Department of Engineering and Physical Sciences (DEPS) (21)

1. Dudhane S, Majethiya R, Jani I, Patel M, **Bajad G, (2020).** Degradation and removal of Pendimethalin herbicide from aqueous solution using electro-sorption process, **Natural Sciences**, volume 1 (1). (In Press) **(Research Article)**
2. Pradhan A, **Mishra S**, Basu SM, Surolia A, Giri J, Srivastava R, Panda D. **(2021)** Targeted nanoformulation of C1 inhibits the growth of KB spheroids and cancer stem cell-enriched MCF-7 mammospheres. *Colloids Surf B Biointerfaces*, 2021, 202:111702. **(Research Article)**
3. Pradhan A, **Mishra S**, Surolia A, Panda D. **(2021)** C1 inhibits liquid-liquid phase separation and oligomerization of tau and protects neuroblastoma cells against toxic tau oligomers. *ACS Chem. Neurosci.* 2021, 12, 11, 1989–2002. **(Research Article)**
4. Bariya A, Anand V, **Mishra S. (2021),** Recent Advances In the Bile Acid Based Conjugates/Derivatives towards Their Gelation Applications, *Steroid*, 2021, 108769 **(Review Article)**
5. Goswami, R. C., Joshi, H., **Gautam, S.**, Om, H. **(2021).** Applications of Big Data and Internet of Things in Power System. *In Architectural Wireless Networks Solutions and Security Issues* (pp. 209-225). Springer, Singapore. **(Book Chapter)**
6. Misra, N., Bhatt, S., Arefi Khonsaric, F., Kumar, V., 2021. State of the Art in Plasma Processing for Healthcare Applications: Can it Help Fight Viral Pandemics Like COVID-19?. *Plasma Processes Polym.* 18:e2000215, 1-23). **(Review Article)**
7. **Anand V, Mishra R**, Barot Y. **(2021).** Recent advances in the development of pure organic white light emitters. *Dyes and Pigments*. 191, 109390. **(Review Article)**

8. **Mishra R**, Mishra S, Chaubey SA, Barot YB. (2021). **Ionic liquids as alternative greener solvents and catalysts in organic transformations** in Book title: Handbook of Greener Synthesis of Nanomaterials and Compounds: Volume 1: Fundamental Principles and Methods. Elsevier Editors: Boris Kharisov, Oxana Kharissova Pages 359-404 ISBN: 978-0-12-821938-6. **(Book Chapter)**
9. **Mishra R**, Mishra S, Barot YB. (2021). **Greener synthesis and stabilization of metallic nanoparticles in ionic liquids** in Book title: Handbook of Greener Synthesis of Nanomaterials and Compounds: Volume 2: Synthesis At the Macroscale and Nanoscale. Elsevier Editors: Boris Kharisov, Oxana Kharissova Pages 245-276 ISBN: 978-0-12-822446-5 **(Book Chapter)**
10. **Choudhary M**. (2021). Perspective: dusty plasma experiments—a learning tool for physics graduate students, *European Journal of Physics*, 2021, 42 053001 **(Review Article)** Saha M., Dey S., and **Kumar S**. (2021). Parametric confidence intervals of Spmk for generalized exponential distribution. *American Journal of Mathematical and Management Sciences*, 40(2), 1-22. **(Research Article)**
11. **Kumar S**. (2021). Classical and Bayesian Estimation of the Process Capability Index Cpy Based on Lomax Distributed. In Yadav D.K. (Eds.), *Advance Research Trends in Statistics and Data Science* (pp. 115-131). MKSES Publication (ISBN-978-81-949305-4-9). **(Book Chapter)**
12. **Kumar S.**, Yadav, A. S., Dey, S., and Saha, M. (2021). Parametric inference of generalized process capability index Cpyk for the power Lindley distribution Quality Technology and Quantitative Management. **(Research Article)**
13. Yadav, A. S., Saha M., Tripathi H., and **Kumar S**. (2021). The exponentiated xgamma distribution: Estimation and its application. *Statistica*. **(Research Article)**
14. Mishra P., Alok S., Rajak D., Javed M., Begic I., Bahugunab M., **Talati I.**, (2021). Investigating optimum ship route in the Antarctic in presence of sea ice and wind resistances - A case study between Bharati and Maitri, *Polar Science*, 100696. **(Research Article)**
15. **Talati I.**, Mishra P., Shaikh A. (2021). An Integrated and Collaborated Supply Chain Model Using Quantity Discount Policy with Back Order for Time-Dependent Deteriorating Items *Decision Making in Inventory Management Springer, Singapore*, 2021, 133-148 **(Book Chapter)**

16. **Talati I.**, Mishra P., Shaikh A. (2021). An Analytic and Genetic Algorithm Approach to Optimize Integrated Production-Inventory Model Under Time-Varying Demand. *Soft Computing in Inventory Management, Springer, Singapore*, 2021, 149-162 **(Book Chapter)**
17. Pattani, K., & **Gautam, S**. (2021). SonicEvasion: a stealthy ultrasound-based invasion using covert communication in smart phones and its security. *International Journal of Information Technology, Springer* 1-11. **(Research article)**
18. **Saxena A K**, Singh R K and Joshi H C (2021). “Time-of-flight mass spectrometry of aluminium plasma: Investigation of multiply charged ions and clusters”. *Plasma Sources Science and Technology*, 2021,30, 035016. **(Research article)**
19. **Dinker, A.**, Agarwal, M. and Agarwal, G 100696D, (2021). Modelling and simulation of helical coil embedded heat storage unit using beeswax/expanded graphite composite as phase change material. *Mathematical Modelling, computational intelligence techniques and renewable energy*, Springer, pp 411-423, **(Book Chapter)**
20. Jayaraj P, Limna D, Akondi S and **Sharma S**. (2021). Early Detection of Covid-19 on CT Scans Using Deep Learning Techniques. **Lecture Notes in Electrical Engineering book series , Springer LNEE, volume 736(Book Chapter)**

Department of Business and Management (DBM) (4)





1. Kushwaha, M., **Tiwari, R**. (2020). A Causal Relationship between Public Expenditure Education and Human Development: Analysis of Indian States. *A Global Journal of Social Science*, 3(3), 1-7. **(Research Article)**
2. Thakkar, H., **Tiwari, R**. Kushwaha, M. (2020). The Voice of Industries: Which most important areas where Federation of Industries and Associations should focus on., *Business Excellence and Leadership in Vuca World*. (First ed., pp. 1-7). Mumbai, Maharashtra: *Himalaya Publishing House*. **(Book Chapter)**
3. **Rathod, D**. (2020). Deconstructing Maternal Semiotic and Paternal Symbolic: A Psycholinguistic Perspective for Social Refinement. *Rupkatha Journal on Interdisciplinary Studies in Humanities* (ISSN 0975-2935), ERIHPLUS Special Conference Issue (Vol. 12, No. 5, 2020. 1-7). **(Research Article)**

4. Thakkar, H., **Tiwari, R.**, and Chandegara, V., (2021). Intertemporal study of CETP: Is it a far cry to ecological sustainability? In S.Shome & Saurabh (Eds.) Unlocking Management Research, A Roadmap to Future Research. (pp. 53-65) **BOOMERANG**, Ahmedabad. (Book Chapter).

Patents

Sr. No.	Author's Name	Title	Patent/Application No.	Year
1)	Oza Ankit	Indian Industrial Design Patent "Iot Based Organic Compost Machine" under IP Design, Intellectual Property Right, Govt of India	Application No. 345652-001	2021
2)	Oza Ankit	IOT based vaccine box for COVID 19	Application No. 345888-001	2021
3)	Oza Ankit	IOT based agricultural security drone	Application No. 345915-001	2021
4)	Oza Ankit	IOT based intelligent hydroponic plant box	Application No. 345955-001	2021
5)	Oza Ankit	IOT based oxygen concentrator under IP Design, Intellectual Property Right, Govt of India	Application No. 347198-001	2021
6)	Oza Ankit	Low cost ambu bag ventilator for COVID 19 under IP Design, Intellectual Property Right, Govt of India	Application No. 347318-001	2021

IAR Seed Grant Awardees

Sr. No.	Principal Investigator (PI)		
	Faculty Name	Title of Gant	Department
1.	 Dr. Nereru Singh	Novel role of MDC1 in Autophagy and its implications in cancer therapy	DBSB
2.	 Dr. Ganesh Bajad	Conducting polymer nanocomposite electrodes for the electrosorption based wastewater treatment	DEPS
3)	 Dr. Niranjan Patra	Self-sanitizing plasma modulated non woven fabrics with a nanostructure for rapid killing of pathogenic virus	DEPS
4)	 Dr. Abhay Dinker	Development of packed bed thermal storage unit using encapsulated thermal storage materials	DEPS

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 and Technology, Pharmacy, Medical, 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 (SODH).

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

Sr. No.	Name of Ph.D. Scholar	Department	Supervisor	Title of the SODH Proposal
1)	Ms. Pandya Kavya Ajit	DBSB	Dr. Neeru Singh	Investigate the novel role of mdc1 as an autophagy inducer and its implications in tumorigenesis
2)	Ms. Parekh Dharni Mukeshkumar	DBSB	Dr. Gajendra Singh	Exploration of Leachate treatment potential of fruit peel based garbage enzyme
3)	Ms. Nidhi Dubey	DEPS	Dr. Sachin Sharma	Artificial Intelligence techniques for semantic and geometric tasks in Photogrammetry
4)	Mr. Prabhudutta Ray	DEPS	Dr. Sachin Sharma	Early prediction of survival of ICU patients at the time of admission using AI techniques
5)	Ms. Sushmita Anilkumar Mishra	DEPS	Prof. Ganesh Prasad	A study on electron scale instabilities in plasmas
6)	Mr. Vyas Saurabh Manojkumar	DEPS	Dr. Roli Mishra	Synthesis and characterization of biocompatible functionalized Imidazolium Ionic Liquids and their applications

DBSB: Department of Biological Sciences and Biotechnology; DEPS: Department of Engineering and Physical Sciences

Newly Accredited Ph.D. Supervisor

The following faculties have been recognized as Ph.D. Supervisor during the year 2021:

Sr. No.	Name of Faculty	Designation	Department
1)	Dr. Neeru Singh	Assistant Professor	DBSB
2)	Prof. Suresh Doravari	Professor	IUCAA, Pune
3)	Dr. Sujata Behera	Assistant Professor	DBM

4)	Dr. Arvind Saxena	Assistant Professor	DEPS
5)	Dr. Rachana Gupta	Assistant Professor	DEPS
6)	Dr. Arpit Shukala	Assistant Professor	DBSB

DBSB: Department of Biological Sciences and Biotechnology; DBM: Department of Business and Management; DEPS: Department of Engineering and Physical Sciences; IUCAA: Inter-university Centre for Astronomy and Astrophysics, Pune

Seminars/Webinars and Workshops

Webinar

Sr. No.	Date	Title of Webinar	Speaker/Speakers/Coordinator
1	24/03/2021	Patents and Intellectual Property	Mr. Bhavik Patel, Founder, Infinvent
2	26/03/2021	Design Thinking: A strategic approach to innovation and start-up creation	Mr. Karmjitsinh Bihola, Founder, INNODESK
3	29/05/2021	Opportunities in AI based start-ups	Mr. Pragalbh Kulshrestha, Sr. Data Scientist, Commerce IQ
4	29/05/2021	Key skills required for freshers to get into web and mobile app development	Mr. Gaurav Gupta, Founder, Squareboat
5	19-24/07/2021	Faculty Development Program	Dr. Ruchi Singh
6	08/09/2021	20 reasons why one should study Master in Materials Science	Dr. Niranjana Patra and Dr. Tvarit Patel
7	25/08/2021	Career opportunities in Nanoscience and Materials Science	Dr. Niranjana Patra and Dr. Tvarit Patel
8	05/08/2021	Emerging trends and future prospects in Nanoscience and Materials Science	Dr. Niranjana Patra and Dr. Tvarit Patel
9	20/08/2021	Chemistry career counseling for UG & PG students	Dr. Roli Mishra
10	12/07/2021	Research Methodology and Ethics: Plagiarism issues and reference management tools: Chemistry	Dr. Roli Mishra
11	7-8/07/2021	Research Methodology and Ethics: Plagiarism issues and reference management tools: Biology	Dr. Neeru Singh and Dr. Gajendra Singh Vishwakarma
12	25/08/2021	Latest technologies in Computer Engineering	Dr. Sachin Sharma, Mr. Nitin Padriya, and Dr. Sunil Gautam

Workshops Organized

Hands-on training program on “*Molecular Docking and Molecular Dynamics*” was jointly organized by Gujarat Biotechnology Research Centre (GBRC), DST and Institute of Advanced Research (IAR, Gandhinagar) sponsored by Gujarat State Biotechnology Mission (GSBTM).

Date: 13th-17th September 2021

Coordinator from IAR: Dr. Dhaval Patel, Assistant Professor, DBSB served as resource person and coordinator from IAR.

Invited Talk

1. **Tiwari AK (2021).** Eye development in *Drosophila melanogaster*. 26th January 2021 in program "Drosophila melanogaster as a model Organism" organized by the Skill Development Centre (SDC), BEICH RUSA.2.0 and Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore.
2. **Tiwari AK (2021).** Miro, a Rho GTPases modulate the AD-related pathologies in *Drosophila melanogaster* in 2nd Global Virtual Summit on Biotechnology and Bioengineering Meeting on 22nd April 2021 (An international Biotech meet)
3. **Oza Ankit (2021).** Recent Trends in Mechanical Engineering. Faculty development program organized by the Department of Mechanical Engineering, Gokul Global University, Gujarat, on 14 July 2021.
4. **Oza Ankit (2021).** Modeling approach of Wire-ECDM Process in Online Short Term Course on “Modeling Approach in Micro - Machining Processes”, organized by Department of Mechanical Engineering, School of Technology, PDPU, Gandhinagar, India on 30th October 2020.
5. **Mishra R. (2021).** Remediation and Extension Activities. Faculty development program organized by the Institute of Advanced Research Gandhinagar, Gujarat, on 20th July 2021.
6. **Mishra R. (2021).** Internal Quality Assurance. Faculty development program organized by the Institute of Advanced Research Gandhinagar, Gujarat, on 21st July 2021.
7. **Kumar S (2021).** 3 days lecture’s series on Design Project-I (Statistical methods) for the course M. Des. at NID Ahmedabad, Gujarat during 18-22 June, 2021.
8. **Sharma S (2021).** Talk in GUJCOST Sponsored Two Days National E-Workshop on Python Programming on 19th and 20th August’ 2021 organized by Department of Computer Application (MCA), Sankalchand Patel College of Engineering, Sankalchand Patel University, Visnagar.
9. **SharmaS (2021).** Talk in GUJCOST sponsored Two Days webinar on Advances in Electrical and Electronics Engineering for Healthcare System development” on 27th-28th August’ 2021 organized by Electrical Engineering Department, Adani Institute of Infrastructure engineering.

10. **Gupta R (2021):** Talk in global online FDP on Advanced Optimization Technique and hands-on with matlab” during 13th-14th February, 2021 organized by Electronics and Communication engineering department, NIT Jaipur.
11. **Mishra S. (2021).** Therapeutic Applications of Curcumin and its Derivatives in the 21st Century at Kadi Srava Vishwavidyalaya in two Days National Virtual Seminar on Emerging Trends in Chemical and Material Sciences on 22-23 July 2021.
12. **Patel D. (2021).** Workshop on Molecular Dynamics Simulations, Theory and its application using GROMACS” at the Hands-on Training Program on Molecular Docking and Molecular Dynamics 13th –17th September 2021 jointly organized by GBRC and IAR, Gandhinagar, Gujarat.
13. **Patel D. (2021).** Molecular Dythe keynote lecture, a keynote lecture at the Workshop on Exploring Resources for COVID-19 Research organized by Camarada, 26th – 30th July 2021.

Start-ups

Sr. No.	Start-ups	Founder/Co-Founder Name
1.	SVA Robotics	• Ravindrasinh Rahewar • Zaid Kesarani
2.	BENPD Ecolabs	• Dhruv Mamtora
3.	BioPot	• Nidhi Jha • Rani Chauhan • Hardik Patni • Sagar Patel
4.	Invision Aid	• Arth Pandya • Medha Vyas • Parth Pambhar • Dhruvi Desai • Parth Virani
5.	KReSys (Kalam Rescue Systems)	• Yash Shah • Himanshu Bhavsar • Viraj Patel • Rushi Oza

GSIRF (Gujarat State Institutional Rating Framework)

The Institute of Advanced Research was placed 29th in the GSIRF Rankings.

University Clubs involved in research related activities

Sr. No.	Name of the Club	Faculty Mentor
1.	Photography and Media Club	Mr. Mukesh Choubisa
2.	Computer Society and Gaming Club	Ms. Divya Dileep
3.	Entrepreneurship Club	Dr. Sharad Kumar
4.	Social Outreach Club	Mr. Nitin Padriya
5.	Literary and Debate Club	Dr. Dhara Rathod

MEMORANDUM OF UNDERSTANDING

IAR had signed the following Memorandum of Understanding:

1) MoU with MAHSA University

IAR signed an MoU with MAHSA University, Malaysia for joint research and academic activities (2nd September 2021).

2) MoU with TRUSHANA EXIM

IAR signed an MoU with TRUSHANA EXIM, Surat for production of microwave plasma production using 2.45 GHz source and 915MHz source. In this MoU, Rs. 10 lakhs have been released as the first instalment.

3) MoU with Gujarat Government's SSIP (Student Startup and Invention Policy)

IAR signed a Memorandum of Understanding with the Gujarat Government's SSIP (Student Startup and Invention Policy) to assist student innovation.

4) MoU with Gujarat Technological University's Atal Incubation Center in Ahmedabad

IAR signed a Memorandum of Understanding with Gujarat Technological University's Atal Incubation Center in Ahmedabad to support Bioengineering and Biotechnology innovators.

5) MoU with Talent Sprint Centre of Excellence (TSCOE)

IAR signed MoU with Talent Sprint Centre of Excellence (TSCOE) for transformational high-end and deep-tech learning programs for our students.

6) MoU with Caliche Gobal Company for collaboration

IAR signed MOU with Caliche Global Company for collaboration in Petroleum Biotechnology Research.

7) Research Agreement with the TATA Steel India Ltd.

IAR signed a research agreement with TATA Steel India Limited for the design and development of Thermal Plasma Reactor Technology for the processing of low grade Mn ore fines.

IAR RESEARCH JOURNAL

IAR has started a multi-disciplinary research journal '**Natural Science**'. It covers basic, translational, and multidisciplinary research of science, engineering and humanities to promote knowledge, communication, and research. The first issue was released in 2020.



HONOURS AND AWARDS (2020-21)

2020

a) Dr. Sachin Sharma, Assistant Professor, Department of Engineering and Physical Sciences 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 and Information Technology (MeitY) and Department of Science and Technology (DST) initiative.

b) IAR Best Research and Innovation Award

Dr. Reena Agarwal Rajput, Associate Professor, Department of Biological Sciences and Biotechnology 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 received IAR’s best teacher award.

d) IAR Best Employee Award

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

e) IAR Special COVID 19 Warrior Award

Mr. Poonam Makwana, Housekeeping person received the IAR Special COVID 19 Warrior Award in 2020

INTERNATIONAL REACH

Purico Group, a multi-national conglomerate with headquarters in Nottingham, UK, is our promoter's charity. Many of our faculty members have worked in famous universities throughout the world and have substantial international experience. We also collaborate with renowned universities in the United States, Europe, and Asia on academic and research projects. As a result, the Institute of Advanced Research is able to provide international opportunities for our students and graduates to pursue higher education in other countries.

The following are some of the universities with which our faculties 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
- Ulsan National Institute of Science and Technology, South Korea
- Osaka University, Japan
- University of Tokyo, Japan
- Harbin Institute of Technology, China
- Northwestern Polytechnical University, China
- Chongqing Jiaotong University, China
- Mount Sinai Medical School
- Temple University
- Institut de Denetique de Humaine
- Institu Gustave Roussy
- Mayo Clinic, Rochester
- MAHSA University

The university and MAHSA University, a medical university in Malaysia, inked a Memorandum of Understanding to enhance clinical research based on our existing biomedical research. This MoU, together with our prior relationships with Nottingham Trent University and London South Bank University, will enable us to provide our students with opportunities for higher study and research. In research and related activities, we are also collaborating with the Pandit Deen Dayal Energy University. For the sake of our students, we shall continue to form external collaborations in India and internationally.

STUDENT SUPPORT SERVICES

To support students with day-to-day activities, a student guidance cell has been established. It assists with admission procedures, hostel amenities, transportation facilities, female student counseling, scheduling, and financial support, among other things. Parents, guardians, and students are encouraged to seek help and counseling from the guidance cell on such topics.

Student Council

The University established a Student Council, whose members represent all institute students in meetings with the President, Registrar, Department Heads, and Deans. The Student Council will convene twice each semester.

The student representatives for the Student Council of the Academic Year 2020-21 are:

Dhruv Mamtora (B.Sc. Life Sciences, 2nd year)

Vrunda Tavkar (B.Tech Biotechnology, 2nd year)

Vaibhav Patel (B.Tech Biotechnology, Final year)

Rohan Kinger (M.Sc. Physics, 2nd year)

Yaminee Khandhediya (B.Sc. Microbiology, Final year)

Jigar Sheth (B.Sc. (Hons.) Biotechnology, 2nd Year)

Raghav Joshi (B.Tech Computer Engineering, Final year)

TRAINING AND PLACEMENT CELL

Highlights of IAR Placement Cell:

- More than 20+ seminar/talk conducted on various sectors of industries
- More than 100+ short term internships availed by students
- In Department of Biological Sciences and Biotechnology, 22 out of 42 students are placed
- In Department of Engineering and Physical Sciences, 12 out of 51 students are placed
- In Department of Business and Management, 9 out of 13 students are placed
- Highest package of 7 lakhs per annum offered by Tata Consultancy Services
- Average package of 2.75 lakhs per annum is offered
- 5+ Pre-placement readiness sessions/programs is organized for all students
- Additional 300+ companies have been contacted for industrial training
- More than 20+ companies have offered campus recruitment drive
- 30+ national internship and 20+ international scholarship opportunity is circulated to students
- Signed MoU with Talent Sprint for placement readiness on soft skills and technical skills
- Provided assistance to students for completing summer training projects
- Mentored 85+ students for Summer Research Fellowship

Seminars/Talks Conducted

Sr. No	Experts	Title of the Talk
1	Dr. Arvind Patel, MD and Founder, Sahajanand Laser Technology Limited	Industrial Environment: Real-time Technical/Managerial Skills
2	Dr. Vishal Nanavaty, Neuberg Center for Genomic Medicine, Supratech, Ahmedabad	The role of Next Generation Sequencing (NGS) Technologies in Modern Biotechnology
3	Mr. Karmjitsinh Bihola, Founder, INNODESK	Design Thinking: A Strategic Approach to Innovation and Start-up Creation
4	Mr. Bhavik Patel, Founder, Infinvent IP	Patents and Intellectual Property
5	Mr. Rishabh Gupta, Data Developer, Sagitec Solutions, (Denver Metropolitan Area, US)	An Introduction to Data Analysis with SQL
6	Prof. Harish Padh, Former VC, S.P.University	Genomics and Personalized Healthcare
7	Ms. Pallavi Mahajan, VP, Head of Software Engineering, HPE, Bangalore, India	Women Achiever in Engineering
8	Swapana Balayan, Squadron Leader (Retired), Indian Air force	Women Achiever in Force
9	Shilpa Malik, Founder, Bioscan	Women Achiever in Science
10	Anuradha Skula, Deputy Commandant, Indian Coast Guard	Felicitating the Women Achiever in Indian Coast Guard
11	Dr. Satyasai Jagannath Nanda, Assistant Professor, Department of Electronics and Communication Engineering, NIT Jaipur	Evolutionary Algorithm to Handle Clustering Problems
12	Dr. Sivapriya Kirubakaran, Associate Professor at IIT, Gandhinagar	The Development of a method for Genome Editing
13	Prof. Nirupama Trehanapati, Institute of Liver and Biliary Sciences, New Delhi	Do we need Hepatitis C Vaccine in the current scenario
14	Mr. Jugal Kishor Mishra, Former Associate and Vice President of Vedanta Group	Servant Leadership
15	Mr. Vaidya Rakesh Salve, Associate Professor, Manjushree Research Institute of Ayurvedic Science	COVID Management
16	Dr. S.K. Batra, Deputy Director of Bharitiya Vidya Bhawan as well as a Motivational Speaker	Motivational Talk
17	Mr. Praveen Chaudhary, Sr. Engineer, LinkedIn, USA	Technological Skills
18	Mr. Yogesh Agiwaal, Career Coach	Emotional Intelligence for Educators
19	Dr. Dilip Krishnaswamy, Vice President , Reliance Jio Platforms, Bombay	Machine learning opportunities for 5G smart cities
20	Dr. Nishodh Saxena, Founder and Managing Director , Prowess Pharma Knowledge Centre	आत्मनिर्भर भारत - Pharmaceutical, Healthcare Industry Orientation, and Career Guidance

Graduate Destinations

Name of the Employer	
Ashirwad Pathology Lab	West Coast Pharmaceutical Works Limited
Prerana Bio Innovations Research	Zydus Hospital
Emcure Pharama	Concord Pvt. Ltd.
Finecure Pharmaceuticals	Fedora Solutions
Zydus Pharmaceutical Company	Lambda Therapeutic Research
GEMI	Raman Enviro Services Pvt. Ltd.
Aan Pharma Private Limited	Sanjar Pharma LLP
Intas Pharmaceutical	Daffocare Labs
Ashirwad Pathology Lab	Sahi Food Company
Pfizer Healthcare	Bioture Labs Pvt. Ltd.
Ami Life Sciences Pvt. Ltd.	Zydus Vaccine Technology
Cadila Healthcare Ltd.	Puniska Healthcare
Brussels Laboratories Pvt. Ltd.	Supratech Labs Pvt. Ltd.
Pfizer Healthcare	Upper India
Torrent Research Centre	Tax Tech India
Cubit LLP Pvt. Ltd.	Bitscape Infotech
Ishan Biotech Pvt. Ltd.	Arham Pathology Labs
Cliantha Research Ltd.	Sunflower Labs
Lincoln Pharma	Unipath Labs
Prompt Equipment Pvt. Ltd.	Gujarat Maritime Board, Gandhinagar
Junior Research Fellow at IAR	Intech Services
Biomatrix Pharma	Sapphire Software Solutions
Tata Consultancy Services	Bank of Baroda
ViitorCloud Technologies	

Internships Availed

More than 100+ short term internships are availed by our students. Selected internships details are shown below:

Sr. No.	Students Names	Graduation Year	Stream	Company Name
1.	Archana Sharma	2017	Physics	Dimentics Info Tech Private Limited
2.	Udit Dave	2022	Physics	Mind Harmonics
3.	Pranjali Joshi	2021	General	United Nations Volunteer
4.	Archana Sharma	2017	Physics	Teach For India
5.	Jeel Shah	2022	Physics	TIFR, Mumbai
6.	Jeel Shah	2022	Physics	PRL, Ahmedabad
7.	Shelly Chaudhary	2022	Physics	IUCAA, Pune
8.	Aman Shah	2021	Biotechnology	GradeStack Learning Private Limited
9.	Rhythm Sarkar	2021	Chemical Engineering	United Nations Volunteer
10.	Pooja Pravinkumar Joshi	2021	MBA	Bank of Baroda
11.	Rita Vijaykumar Nanda	2021	MBA	Bank of Baroda
12.	Rahul Dhiraj Yadav	2021	MBA	Bank of Baroda
13.	Meenakshi V.	2021	BBA	Upper India Sales Agency
14.	Pranjali Joshi	2021	BBA	Lumevent Private Limited
15.	Diksha .S. Pandya	2021	BA	Lead and sales
16.	Chirashri Chanakya	2021	BA	Mobiru India Private Limited
17.	Harsh Anilbhai Shah	2021	BA	Innovator and You
18.	Aarzo Pathan	2022	BBA	LETSBIZ
19.	Nikhil Borad	2021	Chemistry	Dharmaj Crop Guard Limited
20.	Jaivik Patel	2021	Chemistry	Dharmaj Crop Guard Limited
21.	Simran Lawrence	2021	Biotechnology	Indian Academy of Sciences at Punjab University
22.	Hetvi Shah	2021	Biotechnology	BIIS program supported by BIRAC-SRISTI, Government of India
23.	Rutuparna V. Kulkarni (DBT Supported)	2021	Biotechnology	SRISTI Summer School



G J K & Associates
Chartered Accountants

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AUDITORS' REPORT

We have audited attached Balance Sheet of **Institute of Advanced Research, Gandhinagar** (deemed University) as at March 31, 2021 and the Income and Expenditure Accounts for the year ended on that date annexed thereto. These financial statements are the responsibility of the management. Our responsibility is to express an opinion on this financial statement based on our audit.

1. We conducted our audit in accordance with auditing standards generally accepted in India. We believed that our audit provides reasonable basis for our opinion.
2. Further to our comments referred to in paragraph 1 above, We report that :
 - a.) We have obtained all the information and explanation, which to the best of our Knowledge and belief were necessary for purpose of our audit.
 - b.) In our Opinion the university, as required by law, has kept proper books of account, as far as appears from our examination of those books.
 - c.) The Balance sheet, and the Income and Expenditure Account dealt with by this report are in agreement with the books of account.
 - d.) In our opinion and to the best of our information and according to the explanation given to us, the said accounts read together with the significant Accounting Policies and other Notes thereon give the information in the manner so required, and present a true and fair view in conformity the with the accounting principles generally accepted in India :
 - (i) In so far as it relates to Balance Sheet, of the state of affairs of the University as at March 31, 2021; and
 - (ii) In so far as it relates to the Income and Expenditure Account, of the deficit/Surplus of the University for the Year ended on that date.

DATE : 15/10/2021
PLACE : Gandhinagar
UDIN: 21109983AAAAKM1788

For, GJK & Associates
Chartered Accountants


Jayesh J. Patel
(Partner)
M.No:109983

INSTITUTE OF ADVANCED RESEARCH

Koba Institutional Area, Koba, Gandhinagar-382007

BALANCE SHEET AS AT 31ST MARCH, 2021

Amount in INR			
Particular	Schedule	FY-2020-21	PY-2019-20
FUNDS AND LIABILITIES			
University Fund			
Endowment Fund	1	1,31,29,983	1,31,29,983
University Fund- General	2	21,23,73,000	17,72,73,000
Current Liabilities and Provisions			
Current Liabilities	3	2,71,69,554	1,89,21,422
TOTAL		25,26,72,537	20,93,24,405
ASSETS			
Fixed Assets			
Opening Gross Block	4	3,02,42,577	2,41,23,605
Less:- Depreciation		1,67,94,986	1,24,84,605
Added Fixed Assets		77,77,257	61,18,972
TOTAL ASSETS		2,12,24,848	1,77,57,972
Current Assets, Loan and Advances			
Deposit Assets	5	12,000	6,000
Loan & Advance (Assets)	6	1,62,536	10,02,611
Sundry Debtors	7	13,82,912	0
Cash-In-Hand		1,84,391	44,396
Bank Accounts	8	1,06,83,356	88,96,126
Advance Against work		0	2,15,705
Other Current Assets(TDS & TCS Receivable)		1,63,437	1,63,437
Investment of Funds(Fixed Deposit)		5,00,000	0
Excess Of Expenditure over income	9	21,83,59,057	18,12,38,157
TOTAL		25,26,72,537	20,93,24,405

Schedules and Notes to the Accounts attached herewith form part of accounts.

For Institute of Advanced Research

Mr. Manoj Patel
Finance Officer

Date:15/10/2021
Place: Gandhinagar

Prof. Rao Bhamidimarri
President



Subject to our report of even date attached herewith

For G J K & Associates

Chartered Accountants

Jayesh J. Patel
Partner
M.No:109983
UDIN No: 21109983AAAAKM1788



INSTITUTE OF ADVANCED RESEARCH

Koba Institutional Area, Koba, Gandhinagar-382007

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31ST MARCH, 2021

Amount in INR			
Particular	Schedule	FY-2020-21	PY-2019-20
INCOME			
Fees and Other Income	10	3,64,43,184	3,51,26,015
Other Educational Income	11	24,60,337	64,49,876
Interest Income	12	1,17,052	1,07,695
Other Income	13	4,39,952	1,98,027
TOTAL (A)		3,94,60,525	4,18,81,613
EXPENDITURE			
Administrative Expenses	14	2,04,24,806	2,23,62,887
Establishment Expenses	15	4,65,48,585	4,15,57,796
Expenditure on Education Programme	16	50,83,943	78,31,760
Expenditure on project programme	17	2,13,710	5,61,651
Depreciation	4	43,10,381	37,68,645
TOTAL (B)		7,65,81,425	7,60,82,739
Excess of Expenditure over Income (A-B)		-3,71,20,900	-3,42,01,126

Schedules and Notes to the Accounts attached herewith form part of accounts.

For Institute of Advanced Research

Mr. Manoj Patel
Finance Officer

Date:15/10/2021
Place: Gandhinagar

Prof. Rao Bhamidimarri
President



Subject to our report of even date attached herewith

For G J K & Associates
Chartered Accountants

Jayesh J. Patel
Partner

M.No:109983
UDIN No: 21109983AAAAKM1788



The University for Innovation

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