ANNUAL REPORT 2019-20

सत्यमेव जयते

Department of Pharmaceuticals
Ministry of Chemicals and
Fertilizers Government of India

NIRF 2020

SECURED TOP
8th RANK
IN PHARMACY

"Innovations, Collaboration, Translation"

ARIIA 2020

AWARDED IN
BAND A
RANK 11-25

अहमदाबाद
AHMEDABAD

National Institute of Pharmaceutical Education and Research, Ahmedabad (NIPER-A)

Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Government of India

अहमदाबाद
AHMEDABAD

Table of Content

From the Director's Desk

Greetings and welcome to the National Institute of Pharmaceutical Education and Research-Ahmedabad (NIPER-A). NIPER-Ahmedabad was established in the year 2007 to train individuals displaying competency in the pharmaceutical sector to meet the requirements of the ever-growing healthcare sector. Ever since then, the Institute has an outstanding record of producing exceptional pharmaceutical scientists, researchers, and academicians. The Institute is functioning from a transient, temporary building on a 60-acre land site at Gandhinagar since August 2016. Located in the industrial hub of Gujarat, NIPER offers several experiential learning opportunities for its students, including extramural internships at pharmaceutical companies. Here we believe that creating competent pharmacists begins with cultivating compassion, respect, and academic integrity. Diversity is one of our core values, and we strive to inspire our students to be forces of positive change in the world.

The brilliance in academics and research activities comes from the thoughtful selection of faculty members in which NIPER-Ahmedabad has not made any compromise. It has gone to outreach and fetches scholars with excellent postdoctoral and teaching experiences from all over the world to enrich the education and research quality of the Institute. With these exceptional faculties, the Institute motivates its students to achieve the highest standards of excellence in their courses. With its fascinating team, NIPER-Ahmedabad is on an engrossing path of growth and development. I am glad to share that we have attained All India **RANK #2nd in TLR** (teaching, learning, and research in Pharmacy) with Overall **Rank #8th in NIRF-2020 ranking** of MHRD. In recently released ARIIA raking 2020, NIPER - Ahmedabad was placed in **Band A** Category of public funded institutes. Today, NIPER-Ahmedabad has established itself as one of the top technological pharmacy research institutes in the country, but that is just the tip of the iceberg equated to the gigantic initiatives and evolutions the Institute is making. Research collaboration is an integral part of our growth strategy. NIPER-Ahmedabad has expanded its outreach to the industry as well as collaborated with the best academic institution of USA, UK, Australia, Ireland, and Malaysia for collaborative research, faculty visit, syllabus up-gradation, and regulatory reforms with several industries and leading institutes. We have made a spectacular start, but there is a long way to go nevertheless I am pretty certain that with the dynamic teamwork of all our faculty, staff, employees, collaborators, stakeholders, students, parents of the students, constitutional organizations, funding agencies and public at large, we will be able to achieve the maxims of NIPER-Ahmedabad.

Prof. Kiran Kalia
Director
NIPER-Ahmedabad

जय हिन्द

About NIPER-Ahmedabad

The wave of globalization has propelled the expansion of the Indian Pharma sector. India is amongst the top 10 countries of the world, regarding the volume and value of Pharmaceutical products. Enthusiastic and entrepreneurial efforts have turned Gujarat into the hub of Pharma Manufacturing, Research & Development activities. The innovative and translational approach of the Indian scientists resulted in the paradigm shift from the industrial age to knowledge enriched economy.

Pharmaceutical education has played a vital role in human resource development, catalyzing the growth of life sciences and healthcare industry. The visionary augmentation of the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Government of India has led to the establishment of six new NIPERs in 2007. It is currently functioning from a transient, temporary building on a 60-acre land site at Gandhinagar since August 2016. NIPER-Ahmedabad is presently offering **M.S. and Ph.D.** programs in **07** streams (Pharmaceutics, Pharmaceutical Analysis, Pharmacology & Toxicology, Biotechnology, Natural Products, Medicinal Chemistry, and Medical Devices). Plan to establish the **National Centre for Medical Devices (NCMD)** to cater as well as nurture the need for booming medical device industries within and outside India. The interdisciplinary courses and cultural diversity at NIPER-Ahmedabad sparks the spirit of innovative research and all-round development of its students. The location of the Institute ensures a symbiotic association with Pharmaceutical Industries, Medical centers, and technological universities. In the year 2020, it has achieved all India Rank #2nd in TLR (teaching, learning, and research) with overall Rank #8th in the NIRF-2020 ranking of MHRD. In recently released ARIIA raking 2020, NIPER-Ahmedabad was placed in Band A Category of public funded institutes. NIPER-Ahmedabad aspires to serve as a good launching platform to revamp the pharmaceutical education and research and to initiate the new era of pharmaceutical and biomedical sciences.

NIPER-Ahmedabad, under the inspiring leadership of Prof. Kiran Kalia, aspires to be an internationally recognized premier center of excellence in teaching, research, and entrepreneurial training. The interdisciplinary courses and cultural diversity at NIPER Ahmedabad spark the spirit of innovative research and all-round development of its students. NIPER Ahmedabad has served as a good launching platform to revamp the pharmaceutical education and research, to initiate the new era of pharmaceutical and biomedical sciences.

National Institutional Ranking Framework(NIRF), Ministry of Human Resource Development, Govt. of India, has released All India Rankings 2020 on 11th June, 2020 by Honorable Ministry of HRD (Shri. Ramesh Pokhriyal 'Nishank'), in which NIPER – A has been Ranked #2nd in Teaching and Learning Resources (TLR) and All India Ranking of #8th among all Pharmacy Educational and Research Institutions in India.

NIPER-Ahmedabad has evolved as one of the premier institutes from Gujarat that has grabbed top position among the leading pharmacy Institutes in the country. Under the leadership of Director Prof. Kiran Kalia with a strong faculty team, NIPER-Ahmedabad has made its position in the country in a short period. The TLR ranking of NIPER-Ahmedabad was based on the ratio of the number of faculty members in the Institute, their outstanding qualification, and the intake of students in all its existing programs. The ranking was based on the number of educational, refresher, and orientation courses and activities that NIPER-Ahmedabad has organized. It has also been credited outstanding for its participation in e-content creation programs, interactions, and collaboration with industries and facilitation of outside faculty in quality improvement. These initiatives of NIPER-Ahmedabad has added enormously to the skilled development initiative of the Government of India.

	TLR				RP				GO				OI				PR
	SS	FSR	FQE	FRU	PU	QP	IPR	FPPP	GPH	GUE	MS	GPHD	RD	WD	ESCS	PCS	PR
Score	11.54	29.58	17.07	26.78	15.53	19.79	0.50	3.75	37.29	15.00	20.38	4.02	21.37	24.95	0.00	20.00	63.08
Total	20.00	30.00	20.00	30.00	35.00	40.00	15.00	10.00	40.00	15.00	25.00	20.00	30.00	30.00	20.00	20.00	100.00

Teaching Learning & Resources | Research and Professional Practice | Graduation Outcome | Outreach & Inclusivity | Perception

Vision

To be a Nationally and Internationally recognized premier Centre of Excellence in Teaching, Research and Entrepreneurial Training in Pharmaceutical Sciences and Biomedical Technologies.

Mission

To ensure that departmental and administrative associates are provided with the necessary resources to excel in learning, research, teaching, and administration.

To establish the National Centre of Medical Devices (NCMD) for contributing to Medical Technology education through collaborative programs of mutual interest.

To evolve Medical Technology clusters with shared facilities for creating an ecosystem for the benefit of SMEs focusing on Medical Technology.

Development of human resources by skill up-gradation through specialized courses and training programs.

To encourage students for innovative translational research through interdisciplinary research teams.

To promote national and international collaboration with Pharmaceutical Industries, Medical Centres, and Universities.

To facilitate international student and faculty exchange programs to enhance the diversity on the campus.

To organize international and national conferences and structured workshops for the benefit of students and professionals.

Name, Designation and Research Interest

Prof. Kiran Kalia, Ph.D.
Director

Proteomic and genomic biomarkers for diabetes and its microvascular complications

Role of miRNA in epigenetics and pathogenesis of diabetic nephropathy

Transcriptome analysis of Oral Squamous Cell Carcinomas patients from Gujarat, India

Dr. Akshay Srivastava, Ph.D.
Associate Professor

Translational biomedical research involving fabrication of biomaterial-based medical devices

Finding novel therapeutic strategies for tissue regeneration and developing in vitro platforms to understand disease pathology

Dr. Pallab Bhattacharya, Ph.D.
Associate Professor

Intra-arterial delivery of mesenchymal stem cells in small/large animal model of ischemic stroke and study mechanisms of neuroprotection

Regulatory RNA-mediated mesenchymal stem cell engineering-based drug delivery to the brain

Dr. Rakesh Kumar Tekade, Ph.D.
Associate Professor

Polymeric Transfecting Reagent for targeted drug and RNA Interference (RNAi) therapy

Targeted Nano Drug delivery in Cancer, Arthritis, Neuro degenerative disorders etc.

Implantable Chemo-Photothermal Nanoseeds to tackle resistant Cancers

NIR-Laser activatable injectable Nanoseeds for Photo-chemo-thermal therapy of resistant tumors; and for the prevention of post-surgical relapse of the resectable tumor.

Dr. Abhijeet Kate, Ph.D.
Associate Professor

Implementation of various LC-MS based dereplication strategies to discover novel scaffolds from biological sources, fingerprinting of extracts by LC-UV-MS

Development of novel approaches for the separation and characterization of marine natural products to accelerate the discovery of drug leads

Dr. Bichismita Sahu, Ph.D.
Associate Professor

Design and synthesis of Peptides and Modified Peptide Nucleic Acids (PNAs) for therapeutic and diagnostic applications

Design and synthesis of Bio-inspired hybrid molecular scaffolds and conjugates for Cancer, Metabolic and Neurological Disorder therapy

Name, Designation and Research Interest

Dr. Rachana Garg, Ph.D.
Associate Professor

Elucidating the nature of the dysregulated signaling networks in cancer, as well as the association of oncogenic kinases

Finding novel targeting molecules for cancer therapeutics using varied cellular, biochemical, genetic, and molecular approaches

Dr. Ravi Shah, Ph.D.
Associate Professor

Characterization of complex APIs, Formulations, and Biosimilars; biopolymers and complex generic formulations towards sameness strategy for regulatory submission

In-vitro release profiling through advance dissolution methods

LC-MS and NMR based characterization of impurities, drug-drug/ drug-excipient interaction products, degradation products

Dr. Alok Jain, Ph.D.
Assistant Professor

Develop the therapeutic application using various computational techniques. Current research areas are drug delivery, tissue engineering, drug design, and structural biology

Comparative simulation study of human and rat AB aggregation for the development of a potential therapeutic application for the Alzheimer.

Dr. Amit Mandoli, Ph.D.
Assistant Professor

Focuses on using high-throughput assays such as NGS, CRISPR screen

Protein Mass-spec to identify unique molecular processes that are involved in cancer

Translate the fundamental insights gained through his research into diagnostics and drug discovery processes.

Dr. Dinesh Kumar, Ph.D.
Assistant Professor

Development of new strategies and concepts in synthetic organic chemistry to address the challenging problems in biomedical research, particularly anti-cancer drug discovery

Development of sustainable organic reactions (Green Chemistry)

Total synthesis of pharmaceuticals and natural products

Dr. Amit Shard, Ph.D.
Assistant Professor

Synthesis of BAX activating compounds and neuroprotective molecules

Microwave-assisted organic synthesis

Novel and sustainable protocols for bioactive molecules targeting kinesin proteins towards anticancer activity

Name, Designation and Research Interest

Dr. Neha Arya, Ph.D.
Assistant Professor

Explore biomaterials for applications in tissue engineering, drug delivery and diagnostics

Improve precision in cancer diagnosis and treatment through enhanced relationship between bench-side research and bed-side applications.

Dr. Govinda Kapusetti, Ph.D.
Assistant Professor

Synthesis and fabrication of smart nano-biomaterials for articular surfaces and musculoskeletal tissue regeneration and care

Alternative strategies for cancer theranostics like magnetic hyperthermia and photodynamic therapy

Engineered approaches such as electrical and mechanical stimulations for regenerative medicine

Dr. Prasoon Kumar, Ph.D.
Assistant Professor

Design, manufacture and deploy medical devices

Bio-inspired design, micro/nanofluidics, micro/nanomanufacturing and additive manufacturing for tissue engineering applications and others.

Dr. Satyasheel Sharma, Ph.D.
Assistant Professor

Transition metal catalyzed C-H activation reactions for the synthesis of anticancer agents

Fluorine-containing scaffolds of pharmaceutical importance via C-H Bond Activation

Unreactive C(sp2)-H, C(sp3)-H bond functionalization

Cross dehydrogenative coupling (CDC), Catalysis, functionalization of the porphyrin ring

Dr. Uma Ranjan Lal, Ph.D.
Assistant Professor

Isolation and Characterization of Bioactive Molecules from Plants

Standardization aspects of Herbal Formulations.

Dr. Siddheshwar Chauthe, Ph. D
Assistant Professor

Bioassay-guided isolation and structure elucidation of bioactive compounds from medicinal plants

Development of methods for standardization of polyherbal formulations using hyphenated techniques

To establish Q-markers for the quality standards of traditional Ayurvedic /herbal medicines

Name, Designation and Research Interest

Dr. Pinaki Sengupta, Ph.D.
Assistant Professor

Pharmacokinetic, toxicokinetic, metabolic profiling of chemical entities in discovery and formulation development phase.

Analytical and Bioanalytical method development, validation using HPLC, UPLC, LC-MS/MS, Impurity profiling.

Compatibility and stability analysis of pharmaceuticals.

Dr. Amit Khairnar, Ph.D.
Assistant Professor

Development of breast cancer metastatic mouse model.

Detection of the pathophysiological mechanism behind metastasis, using the IVIS imaging system.

Detection of the role of neuroinflammation in alpha-synuclein pathology progression in Parkinson's disease.

Dr. Hemant Kumar, Ph.D.
Assistant Professor

The death of the endothelial cell continues throughout the acute phase of the spinal cord injury (SCI), predominantly at the injury epicenter.

To find the target or NCEs for endothelial protection/stabilization within penumbral microvasculature and preserving the blood-spinal cord barrier integrity.

Parkinson's disease, neuropathic &inflammatory pain, multiple sclerosis, and arthritis.

Dr. Derajram Benival, Ph.D.
Assistant Professor

Physico-chemical characterization of small molecules, peptides

Proteins and phytopharmaceuticals Development of oral, nasal and injectable formulations Exploring new approaches in dosage form development to meet unmet medical needs.

Dr. Manju Misra, Ph.D.
Assistant Professor

Exploring the potential of bovine lipid as carriers for drug delivery to brain and posterior segment of eye

Solubility enhancement techniques and application in formulation development

Thermal and solid-state characterization of different pharmaceutical process

Dr. Khemraj Bairwa
Post Doctoral

Bioassay-guided extraction and isolation of potential secondary metabolites from Plants and their structure elucidation.

Standardization of plants and herbal extracts with respect of marker constituents using HPLC-PDA, UPLC-PDA, and qNMR techniques

Development of herbal nanoformulation like phytosomes and nanoparticles of enriched plant extract or bioactive markers.

Name and Designation

Prof. Kiran Kalia, Ph.D.
Director

Mr. Kunal Maeshwari
I/C Registrar

Mrs. Shweta Pimpalkar
PA to Director

Mr. D. R. Trivedi
Sr. Accounts Officer

Dr. Deo Kumar Singh
Veterinarian

Mr. Sujeet Pathak
Assistant Grade-II

Mr. Prakash Ravi Das
Junior Assistant (Store)

Ms. Shilpi Sen
Assistant Grade-II

Ms. Pooja Chauhan
Assistant Grade-III

Mrs. Vakta Parth Belani
Office Assistant

Mr. Preet Goswami
Office Assistant

Mr. Akil Malek
Library and
Information Assistant

Name and Designation

Ms. Rajeshwari Rathod
Scientific Officer

Ms. Bhagyawanti Chomal
Technical Assistant

Ms. Monika Seervi
Technical Assistant

Mr. Rakesh Patel
Jr. Technical Assistant (IT)

Mr. Jignesh Patel
Electrician

7th Convocation

The National Institute of Pharmaceutical Education and Research (NIPER)-Ahmedabad witnessed its 7th convocation on Saturday, 18th January 2020. During this ceremony, 72 M.S. (Pharm.) students were conferred with their degrees. Dr. Renu Swarup, Secretary, Department of Biotechnology, Ministry of Science and Technology, GoI graced the occasion as Chief Guest of the ceremony. Dr. Ketan R. Patel, Chairman, BoG NIPER-Ahmedabad along with Prof. Dr. V. Nagarajan, MD MNAMS DM, DSc (Neuroscience) were present as guests during the function. Besides these dignitaries, registrar NIPER-A, NIPER-A alumni, and faculty members of NIPER-A attended the ceremony.

The convocation started with an academic procession headed by the Registrar holding the flag of NIPER-A, followed by the chief guest, Chairman BoG, Director, and invited guest. The dignitaries were followed by the faculty members and students of NIPER-A. The tunes composed by Edward Elgar called “Pomp and Circumstance” added flavor to the Academic Procession. The convocation ceremony was formally declared as open by Dr. Ketan Patel, Chairman-BoG NIPER-Ahmedabad. Director NIPER-A warmly welcomed the chief guests and invited guests and gathered an audience to the NIPER-A campus. She presented welcome address and acknowledged all the dignitaries on and off the dais for gracing the occasion. Prof. Kalia also briefed the journey of NIPER-A and narrated how it is consistently contributing to the health care research industry. Followed by the address, the director took permission from the Chairman BoG for exhortation and then gave a pledge to the graduate students.

7th Convocation

After the pledge, the chief guest of the function, Dr. Renu Swarup, presented gold medals to overall toppers and department toppers. Following gold medal distribution, book prizes were jointly circulated by Dr.Ketan Patel, Prof. Dr. V. Nagarajan, and Prof. Dr. Kiran Kalia to the selected students from the different academic department. After the prize distribution, chief guest of the function, Dr.Renu Swarup, addressed the gathering and heartily congratulated all the successful graduates. In her address, she highlighted the potentials and prospects of Indian science education and methods to overcome it to create a world-class institution. She also emphasized the importance of basic and translational research, innovation & entrepreneurship. She also stressed promoting the innovation ecosystem between different Departments as an initiative of the Government for setting a world-class research facility. She explained how education and science play a key role in transforming lives, impacting society through improved healthcare, agriculture, environment, and industrial growth.

Further, she pointed out that women have revolutionized science and technology for years, we have role models women who have contributed to scientific growth. From 1901 to 2018 and women have received Nobel Prize in Science. She urges institutions like ours to develop the capacities for taking up high-quality scientific research in emerging and disruptive technologies and also define a pathway for the current faculty in adapting to newer science seamlessly. Toward the end of her address, she put forward her view on the deep association of science and society. Dr. Swarup congratulated all the students and appreciated the faculty members of NIPER-A for making of NIPER-A as a frontrunner institute in pharmaceutical and biomedical research.

Dr. Ketan Patel, Chairman-BoG NIPER-A in his address told that NIPER-A would play a crucial role in stimulating indigenous innovations by undertaking translational research for the benefit of the society. He informed that the designs of a permanent campus had been finalized, and very soon, the construction of a new permanent campus will commence. It was briefed that The Board of Governors has also approved setting up a bioequivalence center and a center for medical devices. He suggested that due to the amendment in the Drugs & Cosmetics Acts, drugs falling in BCS Class II & Class IV will have to be bioequivalent to the original reference products. In the future, NIPER-A will like to set up a department for clinical studies and toxicology. Further, he informed that at present, academia, as well as the industry lacks a thorough knowledge of how to design an appropriate protocol that provides unambiguous information of the outcomes in terms of safety & efficacy of a new drug. Quality of clinical trials and toxicology data generation in the country can be vastly improved once an institute like NIPER-A starts training researchers in this vital area, which is also linked to drug discovery.

7th Convocation

After this, Prof. Dr. V. Nagarajan addressed the gathering, after congratulating young graduates, Prof. Dr. V. Nagarajan in his address told students to be lucky to have chosen Pharma education as their choice of education, as this sector is one, wherein the healing of humankind illness starts. He mentioned that student's inventions are going to solve many life-threatening infections, and they are going to be a great support to the Medical Doctors. It was encouraged that one should never wait for an opportunity, the time is life, jump into some work, change your pathway later if need be, but never wait for the job of your desire. He told never to give up hopes, never give up your ideas and ideation, dream, and dream, but be awake always until the dream comes true for you.

Followed by addresses from all the dignitaries, the award of degrees to the students was conducted. Student representative Ms. Kavya extended a vote of thanks on behalf of all graduates, where she mentioned how NIPER curriculum, teaching, and the course had brought the positive transformation in their life. Dr. Ketan Patel, as Chairman BoG declares the closing of the 7th convocation, followed by the national anthem, and group photo with the dignitaries and faculties

7th Convocation

Degrees Awarded during 7th Convocation

M.S. (Pharm.) Degree Awarded	Total Number of Students
Biotechnology	09
Medicinal Chemistry	10
Medical Devices	09
Natural Products	06
Pharmaceutical Analysis	14
Pharmacology & Toxicology	10
Pharmaceutics	14

Book Prize Awardees

Book Prize was given to five students from the collective merit list of the batch. The Winners of book prize in 7th convocation are presented below:

Book Prize Awardees	Name of Students
Biotechnology	Jash Kavya Siddhartha
Pharmacology & Toxicology	Kotian Vignesh Sadanand
Pharmaceutical Analysis	Maria Aftab Bandookwala
Pharmaceutics	Kshirsagar Bhavesh Anil
Pharmacology & Toxicology	Parekh Pathik Hiteshkumar

Gold Medal Awarded during 7th Convocation

Discipline	Students Name
Biotechnology	Jash Kavya Siddhartha
Pharmacology & Toxicology	Kotian Vignesh Sadanand
Pharmaceutical Analysis	Maria Aftab Bandookwala
Pharmaceutics	Kshirsagar Bhavesh Anil
Medicinal Chemistry	Auti Prashant Savleram
Medical Devices	B Divya Latha
Natural Products	Patil Shital Pradeep

Certificate of Appreciation For best Research Article

Students Name	Dept.	Title of Research Article	Name of Journal
Prasanna Anjaneyulu Yakkala	MC	Regioselective C–H Alkylation and Alkenylation at C5 Position of 2-Amino-1,4-Naphthoquinones with Maleimides Under Rh(III) Catalysis	Organic Chemistry Frontiers (I.F. 5.155)
Deepesh Giri			
Maria Bandookwala	PA	Edaravone-caffeine combination for the effective management of rotenone-induced Parkinson's disease in rats: An evidence-based affirmative from a comparative analysis of behavior and biomarker expression	Neuroscience Letters (I.F. 2.274)

Certificate of Appreciation For best Review Article

Students Name	Dept.	Title of Research Article	Name of Journal
Sunita Chawla	PE	Evolving nanoformulation strategies for diagnosis and clinical interventions for Parkinson's disease	Drug Discovery Today (I.F. 7.321)
Kulkarni Bhagyashri	BT	Exosomal miRNA in chemoresistance, immune evasion, metastasis and progression of cancer	Drug Discovery Today (I.F. 7.321)
Kirave Prathibha			

NIPER JEE 2019

NIPER Joint Entrance Examination 2019 (NIPER JEE-2019), for admission in Master's and Ph.D. programs of all seven NIPERs, was conducted by NIPER-Ahmedabad. The preparation for this national level examination commenced six months before the scheduled examination date. The process went through several stages comprising of brochure preparation, procurement of questions from different NIPER faculties and experts, Question papers preparation for M.S. and Ph.D., document verification of students for eligibility, admit card dissemination, center allocation to different students all over India, the actual conduct of online examination, result declaration, and finally ending with counseling and admission for both MS and Ph.D. students at NIPER-A. JCC meetings at regular intervals were conducted with the participation of all NIPER Directors, Chairman JCC, and Chairman NIPER JEE-2019 to discuss issues and progress regarding the smooth conduct of NIPER JEE-2019. The online logistic support for carrying out this exam was provided by Tata consultancy services (TCS), which made the entire process smooth and hassle-free. In total, 2265 and 446 candidates were registered for MS/M Pharm/M Tech/MBA Pharma and Ph.D. programs, respectively, for admissions to various NIPERs. Considering a lot of late entries and last-minute rush, the date for online registration was extended till 25th May 2019 to accommodate last-minute entrants.

On 9th June 2019, NIPER Joint Entrance Examination (Computer Based Test) was successfully conducted. A total of 19 TCS ion centers all over India were allocated for conducting NIPER JEE-2019 online test. For each center, NIPER-A faculty was sent as an observer to monitor the smooth and fair conduct of the exam. NIPER JEE-2019 results were declared on the 12/06/2019 of the exam similar to that of last year. The counseling session started with a group discussion for MBA students (8th-9th July) followed by their counseling on 9th July 2019. The panel of experts for group discussion comprised of distinguished faculty from NIPER Mohali, NIPER Hyderabad, NIRMA University, Gujarat University, Pharma Industry, etc. The entire process was lucidly conducted by the joint efforts of NIPER Ahmedabad faculty and staff in coordination with all seven NIPER representatives who represented respective NIPERs during the counseling. M.S. counseling as followed by Ph.D. interviews for different specialization by a panel of experts comprising of faculties from different NIPER's on 13th-14th July. The results of the interview and written exam were displayed the next day (15th July 2019), and counseling was started from noon onwards. The entire event was video recorded, and all registration-related documents were diligently maintained. The whole process ended with handing over of all student's papers to respective NIPERs for further processing, thus bringing down the curtains on NIPER JEE-2019





NIPER JEE 2019






NIPER-A



Hon'ble Minister of State Shri Mansukh Mandaviya inaugurated the extended building of NIPER-Ahmedabad

Hon'ble Minister of State Shri Mansukh Mandaviya, Minister of State (Independent Charge) of the Ministry of Shipping and Minister of State in the Ministry of Chemicals & Fertilizers, GoI inaugurated the extended building of National Institute of Pharmaceutical Education and Research (NIPER)-Ahmedabad On 14th February 2020. After the inauguration, the minister visited the newly constructed building along with the Director and Faculty members of NIPER-A. The minister loudly applauded the progress made by the NIPER-A in a short period and encouraged the Students, Faculty, and Staff members to continue with the same zeal and enthusiasm.

Students Admitted during 2019-20

NIPER-Ahmedabad has a total sanctioned intake of a total of 112 Masters and 12 Ph.D. students. NIPER-Ahmedabad has conducted an orientation program for the M.S. Pharm. batch 2019-20 from 29th July 2019 to 30 July 2019. The statistics of students admitted in various programs at NIPER-Ahmedabad is shown below.

Discipline	No. of Students admitted	
	Ph.D.	M.S. Pharm.
Biotechnology	01	11
Medicinal Chemistry	03	17
Medical Devices	-	11
Natural Products	01	11
Pharmaceutical Analysis	02	22
Pharmacology & Toxicology	03	18
Pharmaceutics	02	22

The New Student Orientation Program 2019

The New Student Orientation Program is designed to support new students as they begin their journey at NIPER – Ahmedabad. This Orientation Program is mandatory for all students entering NIPER-Ahmedabad. During this program, the coordinators gradually introduce new students to life at the NIPER – Ahmedabad, from academics and community norms to resources and support services. The orientation program for the year 2019 entrant students of NIPER – Ahmedabad was held between 29th July 2019 to 30th July 2019. The program included a series of extended events that provide an introduction to the stimulating intellectual and social environment at NIPER – Ahmedabad, as well as the abundant resources available in the institute.

New students accompanied by their family members arrived on 28th July 2019 to check in the hostel. Additional details about this program have been shared with the students in-hand by the coordinators of the Orientation Program (Dr. Dinesh Kumar and Dr. Ravi Shah).

The New Student Orientation Program was designed to:

- Help students navigate the environment of a research tuned academic institute and meet fellow incoming students.
- Familiarize students with the standards of the Institutes and principles of its academic community
- Help students navigate the campus and identify the many resources available
- Present tips and critical information that will make students' first days, and their transition to NIPER – Ahmedabad, go smoothly!
- Introduce students to faculty, staff and existing students of the Institute
- Acquaint students with the history and traditions of NIPER – Ahmedabad within the context of the history of NIPER's.
- Share a portrait of the incoming class in all its diversity and richness as new students are welcomed into the vibrant community

The New Student Orientation Program 2019

On the first day of the Student Orientation Program, the new students, including their accompanied family members, were introduced to the campus. The Dean, Dr. Pallab Bhattacharya, gave the words of confidence to all parents that their students are in a safe and responsible umbrella; and that whole NIPER team will take parental care of their wards.

Followed by this inspiration session, the Director " Prof. Kiran Kalia", Director NIPER - Ahmedabad welcomed the students and motivated them to dream big and fulfill all their scientific dreams to make NIPER - Ahmedabad a world-class Institute, narrated a quick outline about the Institute's faculty members, grants received publications, national and international collaboration, Industrial MOUs, and other achievements of the institute.
She also opened a parent's forum where all parents and relatives of new students were encouraged to put forward their queries as well as seek resourceful resolutions to the same. The faculty members of NIPER-Ahmedabad also talked about their educational background and their thrust area of research and details of their teaching portfolio.

Shri Ketan R Patel, Chairman Board of Governors, NIPER – Ahmedabad addressed the Students at the Orientation Programme 2019

Chief Guest Dr. Suman Govil, Sr. Advisor, Department of Biotechnology, GoI. addressed the Students at the Orientation Programme 2019. Dr. Sridhar Desikan "Chief Guest Dr. Sridhar Desikan, Vice President Formulation R&D, Dr. Reddy's Laboratory, Hyderabad delivered a very inspiring and eye-opener talk on the topic "Career in Pharma R&D." As a part of the Orientation Programme 2019. delivered Orientation speech by our Chief Guest Dr. V Nagarajan, Chairman & Head, Neurosciences Research & Translational task force, ICMR, New Delhi.

Students Pursuing Ph.D.

Department	Name of Student	Year	Supervisor
Biotechnology	Mr. Piyush Gondaliya	2015	Prof. Kiran Kalia
	Ms. Heena Jariyal	2015	Dr. Akshay Srivastava
	Mr. Gopal Agarwal	2016	Dr. Akshay Srivastava
	Ms. Swarali Joshi	2018	Prof. Kiran Kalia
	Ms. Ambika Chamoli	2019	Dr. Amit Mandoli
Medical Devices	Mr. Namdeve More	2017	Dr. Akshay Srivastava
	Ms. Mounika Choppadandi	2017	Dr. Govinda Kapusetti
	Ms. Priyanka Pulugu	2018	Dr. Neha Arya
Medicinal Chemistry	Mr. Bharat Chaudhary	2015	Dr. Satyasheel Sharma
	Mr. Sagarkumar Patel	2016	Dr. Amit Shard
	Ms. Gargi Vaidya	2017	Dr. Dinesh Kumar
	Ms. Suchita Shinde	2018	Dr. Satyasheel Sharma
	Mr. Dinesh Parshuram Satpute	2019	Dr. Dinesh Kumar
	Mr. Neeraj Narendra Kulkarni	2019	Dr. Bichismita Sahu
	Mr. Rudradip Das	2019	Dr. Amit Shard
Natural Products	Ms. Komal Pandey	2016	Dr. Abhijeet Kate
	Mr. Ashutosh Goswami	2017	Dr. Abhijeet Kate
	Ms. Chaitrali Shevkar	2018	Dr. Abhijeet Kate
	Ms. Parusu Kavya Teja	2019	Dr. Siddheshwar Chauthe
Pharmaceutical Analysis	Mr. Manish Sharma	2015	Dr. Pinaki Sengupta
	Mr. Prakash Niguram	2015	Dr. Abhijeet Kate
	Ms. Disha Thakkar	2016	Dr. Abhijeet Kate
	Mr. Amit Kumar Sahu	2017	Dr. Pinaki Sengupta
	Mr. Harsh Thakkar	2018	Dr. Ravi Shah
	Ms. Sonali Jain	2019	Dr. Ravi Shah
	Mr. Tarang Manharbhai Jadav	2019	Dr. Pinaki Sengupta
Pharmacology & Toxicology	Mr. Dilip Sharma	2015	Prof. Kiran Kalia
	Ms. Deepaneeta Sarmah	2016	Dr. Pallab Bhattacharya
	Ms. Harpreet Kaur	2017	Dr. Pallab Bhattacharya
	Ms. Monika Sharma	2017	Dr. Amit Khairnar
	Ms. Lakshmi Vineela Nalla	2017	Dr. Amit Khairnar
	Mr. Nishant Sharma	2018	Dr. Amit Khairnar
	Mr. Abhishek Roy	2019	Dr. Hemant Kumar
	Ms. Aishika Datta	2019	Dr. Pallab Bhattacharya
	Mr. Sayan Chatterjee	2019	Dr. Amit Khairnar
Pharmaceutics	Ms. Kritika Nayak	2015	Dr. Ravi Shah
	Ms. Shreya Thakkar	2015	Dr. Rakesh K. Tekade
	Mr. Dignesh Khunt	2016	Prof. Kiran Kalia
	Ms. Nidhikumari Raval	2016	Dr. Rakesh K. Tekade
	Ms. Vishakha Tambe	2017	Dr. Rakesh K. Tekade
	Mr. Dyaneshwar	2017	Dr. Rakesh K. Tekade
	Mr. Polaka Suryanarayana	2017	Dr. Rakesh K. Tekade
	Ms. Neelima Anup	2018	Dr. Rakesh K. Tekade
	Ms. Anuradha Gadeval	2019	Dr. Rakesh K. Tekade
	Mr. Sagar Ashok Salave	2019	Dr. Derajram M. Benival

Students Pursuing M.S. (Pharm.)

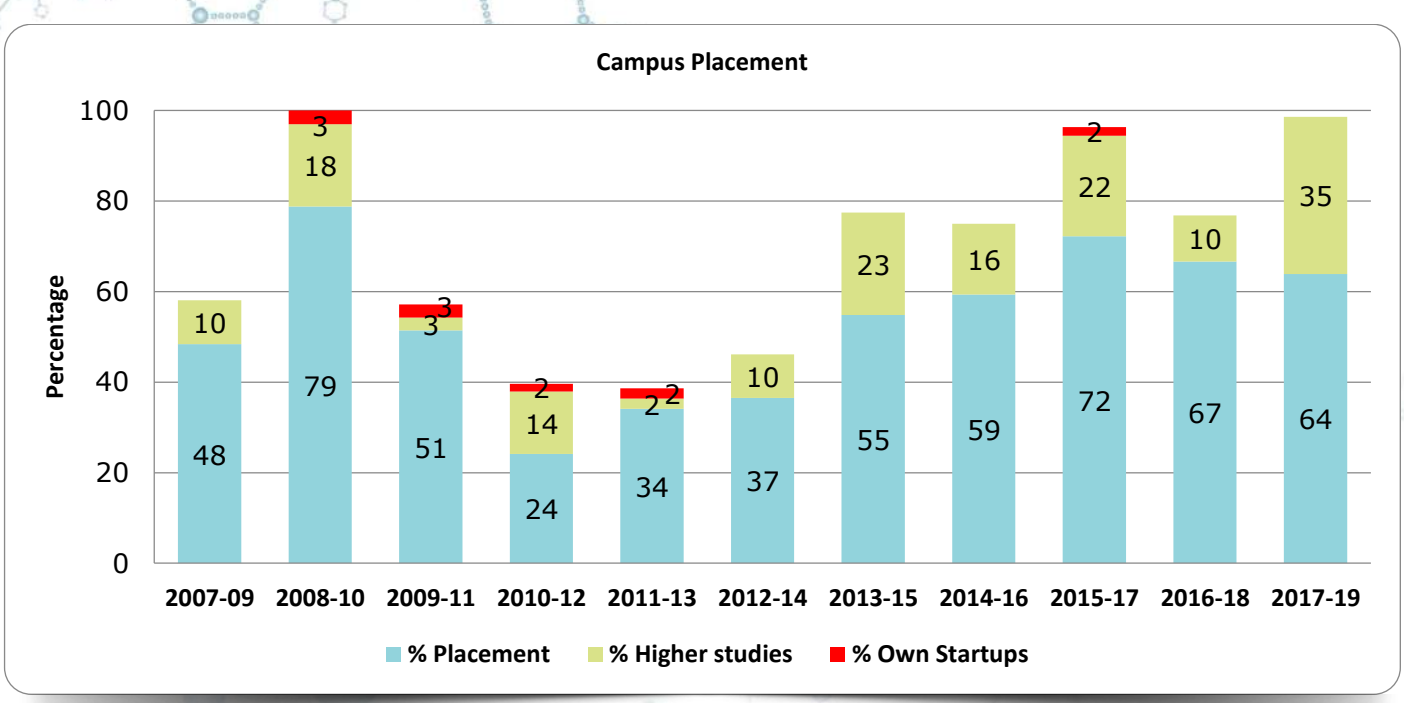
Department	Batch	Year	Supervisor
Biotechnology	Mr. ANIL KUMAR THARALLA	2018-20	Dr. Rachana Garg
	Mr. BHAVINKUMAR GAYAKVAD	2018-20	Dr. Alok Jain
	Mr. DARSHAN MAHESH CONTRACTOR	2018-20	Dr. Alok Jain
	Mr. VEERA NAGA SAI MANIKANTA	2018-20	Dr. Rachana Garg
	Ms. NAZMINA IQBALBHAI VHORA	2018-20	Dr. Alok Jain
	Ms. RAISA PARWEEN SHAIKH	2018-20	Dr. Rachana Garg
	Ms. RUTUJA MARUTI SATVASE	2018-20	Dr. Rachana Garg
	Ms. SAMDISHA DUBEY	2018-20	Dr. Rachana Garg
	Ms. SHAMBHAVI SUDAM ANDHALE	2018-20	Dr. Akshay Srivastava
	Ms. SONALI RAJESH GADGE	2018-20	Dr. Akshay Srivastava
Medicinal Chemistry	Ms. POOJA RANA	2018-20	Dr. Dinesh Kumar
	Mr. ARNAB CHOWDHURY	2018-20	Dr. Amit Shard
	Mr. BHASKAR DEWANGAN	2018-20	Dr. Bichismita Sahu
	Mr. DEEP ROHAN CHATTERJEE	2018-20	Dr. Dinesh Kumar
	Mr. MANISH KUMAR	2018-20	Dr. Bichismita Sahu
	Mr. MITHILESH NAGPURE	2018-20	Dr. Dinesh Kumar
	Mr. SAGAR DILIP POTKULE	2018-20	Dr. Satyasheel sharma
	Mr. TANAY MAHESH DALVI	2018-20	Dr. Bichismita Sahu
	Ms. ANWESHA DAS	2018-20	Dr. Amit Shard
	Ms. ASHWINI V.	2018-20	Dr. Dinesh Kumar
	Ms. AYUSHI SHARMA	2018-20	Dr. Amit Shard
	Ms. JYOTI RANI	2018-20	Dr. Bichismita Sahu
	Ms. MEENAKSHI CHAURASIA	2018-20	Dr. Satyasheel sharma
	Ms. NEHANAZ FAYAZHUSAIN SAIYED	2018-20	Dr. Satyasheel sharma
	Ms. PAYAL DILIP MESHRAM	2018-20	Dr. Amit Shard
	Ms. SURBHIBEN MOHANLAL DESAI	2018-20	Dr. Satyasheel sharma
Medical Devices	Ms. BHAVANI JAGU	2018-20	Dr. Akshay Srivastava
	Mr. DEEPAK VINOD RANGLANI	2018-20	Dr. Govinda Kapusetty
	Mr. ROHIT BABAN PARKALE	2018-20	Dr. Prasoon Kumar
	Mr. SHUBHAM VIKAS KHARCHE	2018-20	Dr. Govinda Kapusetty
	Mr. SHUBHAM RAVINDRA AGIWAL	2018-20	Dr. Akshay Srivastava
	Mr. VAIBHAV TATYASAHEB SHITOLE	2018-20	Dr. Prasoon Kumar
	Mr. VAMSHI NAIK AZMEERA	2018-20	Dr. Akshay Srivastava
	Ms. KEERTHANA M	2018-20	Dr. Govinda Kapusetty
	Ms. SHITAL SHYAMSUNDAR ROKADE	2018-20	Dr. Prasoon Kumar
	Mr. THOTA SIVA	2018-20	Dr. Govinda Kapusetty
Natural Products	Ms. ANJALI BITLA	2018-20	Dr. Khemraj Bairwa
	Mr. AMARNATH HATUI	2018-20	Dr. Khemraj Bairwa
	Mr. PRAMENDRA KANWAR	2018-20	Dr. Satyasheel Sharma
	Mr. ROHIT RAVINDRA SHEJUL	2018-20	Dr. Satyasheel Sharma
	Mr. UJJAL NASKAR	2018-20	Dr. Abhijeet Kate
	Ms. ANKITA PRAFULLA CHOPADE	2018-20	Dr. Satyasheel Sharma
	Ms. JINAL KIRTI MITHIYA	2018-20	Dr. Khemraj Bairwa
	Ms. POOJA MADAN RATHOD	2018-20	Dr. Abhijeet Kate
	Ms. PREETI BACHCHANLAL BHARATIYA	2018-20	Dr. Abhijeet Kate
	Ms. SRILEKHA PULI	2018-20	Dr. Satyasheel sharma

Students Pursuing M.S. (Pharm.)

Department	Batch	Year	Supervisor
Pharmaceutical Analysis	Mr. DALIP KUMAR	2018-20	Dr. Ravi shah
	Mr. ADINATH SHIVAJI MUNDE	2018-20	Dr. Ravi shah
	Mr. AKHILESH KIRTIKUMAR PRAJAPATI	2018-20	Ms. Rajeshwari Rathod
	Mr. LOKESH SHARMA	2018-20	Dr. Ravi shah
	Mr. MAHMADUL HASSAN	2018-20	Ms. Rajeshwari Rathod
	Mr. NIRAJ HUKUMSINGH RAJPUT	2018-20	Dr. Pinaki Sengupta
	Mr. NIRAJ KUMAR PANDAY	2018-20	Dr. Pinaki Sengupta
	Mr. RAJENDAR REDDY GONE	2018-20	Dr. Ravi shah
	Mr. SUNIL CHHABU RONGATE	2018-20	Ms. Rajeshwari Rathod
	Mr. SUSHIL SAMADHAN EDAKE	2018-20	Ms. Rajeshwari Rathod
	Ms. AKHILA PYARAM	2018-20	Dr. Pinaki Sengupta
	Ms. DHRUVISHA JAYESH POKAR	2018-20	Dr. Pinaki Sengupta
	Ms. HARSHADA ANIL BHALERAO	2018-20	Ms. Rajeshwari Rathod
Pharmaceutical Analysis	Ms. JAYSHRI KRISHNA DEORE	2018-20	Dr. Pinaki Sengupta
	Ms. KOMAL RAMESH BHAMARE	2018-20	Ms. Rajeshwari Rathod
	Ms. NANCY GOYAL	2018-20	Dr. Ravi shah
	Ms. PRERANA SANDIP GANGAWANE	2018-20	Dr. Ravi shah
	Ms. MADHURI RAMPILLA	2018-20	Dr. Pinaki Sengupta
Pharmacology & Toxicology	Mr. SAKEEL AHMED	2018-20	Dr. Amit Khairnar
	Mr. ANKAN SARKAR	2018-20	Dr. Pallab Bhattacharya
	Mr. NIRAJ NIVAS TADASARE	2018-20	Dr. Amit Khairnar
	Mr. SATWIK MAKARAND DASTANE	2018-20	Dr. Amit Khairnar
	Mr. SWAPNIL RIJANLAL RAUT	2018-20	Dr. Pallab Bhattacharya
	Ms. BIRVA VIPULKUMAR SHAH	2018-20	Dr. Pallab Bhattacharya
	Ms. CHAITALI CHANDRAKANT SHAHA	2018-20	Dr. Amit Khairnar
	Ms. FALGUNI BAIDYA	2018-20	Dr. Pallab Bhattacharya
	Ms. JASWINDER KAUR	2018-20	Dr. Amit Khairnar
	Ms. MARIYA BOHRA	2018-20	Dr. Pallab Bhattacharya
	Ms. PRIYA RAOSAHEB JAGTAP	2018-20	Dr. Pallab Bhattacharya
	Ms. RITU N. SONI	2018-20	Dr. Amit Khairnar
	Ms. RUHI ARVIND KALE	2018-20	Dr. Amit Khairnar
	Ms. SIDDHI VIVEK RAKSHE	2018-20	Dr. Amit Khairnar
	Ms. UPASNA SINGH	2018-20	Dr. Pallab Bhattacharya
Pharmaceutics	Mr. TEJAS AVINASH CHAVAN	2018-20	Dr. Derajram M. Benival
	Mr. DEVENDRA CHOUDHARY	2018-20	Dr. Rakesh Tekade
	Mr. GAURAV UTTAMRAO SANAP	2018-20	Dr. Rakesh Tekade
	Mr. HANMANT DNYANOBA GOYKAR	2018-20	Dr. Rakesh Tekade
	Mr. SURAJ KANNAUJIA	2018-20	Dr. Derajram M. Benival
	Mr. TUKARAM RAM KARANWAD	2018-20	Dr. Rakesh Tekade
	Mr. VEDANT PRAKASH GADEKAR	2018-20	Dr. Rakesh Tekade
	Ms. VRUTI JIGNESHKUMAR PATEL	2018-20	Dr. Rakesh Tekade
	Ms. CHITRA RAJANI	2018-20	Dr. Derajram M. Benival
	Ms. DEBLEENA PAUL	2018-20	Dr. Rakesh Tekade
	Ms. KAJAL SHAILENDRA SHUKLA	2018-20	Dr. Derajram M. Benival
	Ms. POOJA BORISA	2018-20	Dr. Rakesh Tekade
	Ms. SANDEEP KAUR	2018-20	Dr. Derajram M. Benival
	Ms. SHRUTI VIKAS CHAVAN	2018-20	Dr. Rakesh Tekade
	Ms. SNEHAL VINAY SHENOY	2018-20	Dr. Rakesh Tekade
	Ms. SWATI MAHARU BAGUL	2018-20	Dr. Derajram M. Benival
	Ms. YOGESHWARI GOKUL BORADE	2018-20	Dr. Rakesh Tekade

The goal of Placement Cell is to provide a platform to the students to gain valuable experience of working in the Industries. This cell also acts as an interface between various companies seeking well-trained postgraduates in different disciplines. During the placement process, companies are encouraged to visit the campus for pre-placement talks and personal interviews.

Placement Statistics



Placement Committee

Chairperson	
Dr. Abhijeet Kate Associate Professor Phone: 91-79-66745555 abhijeetk@niperahm.ac.in	
Member	
Dr. Govinda Kapusetti Assistant Professor Phone: 91-79-66745555 govinda@niperahm.ac.in	**Dr. Manju Misra** Assistant Professor Phone: 91-79-66745555 manju@niperahm.ac.in


Dr.Reddy's
Syngene
NOVARTIS
CADILA PHARMACEUTICALS LIMITED
The Care Continues...
laila Pharma
sparc
Imagine. Innovate
Indegene Healthcare
Zydus Cadila
Biocon
LAMBDA
Research Accelerated
Alembic Pharma
AURIGENE
Accelerating Discovery
Himalaya HERBALS
COREL PHARMA CHEM
Aten Porus Lifesciences
VYOME
True Sense Dermatology
SAMI LABS
Johnson&Johnson
Astral Pharmaceuticals
MATRIX Laboratories Limited
Mylan
amneal
Phyto Life Sciences P. Ltd.
FTF PHARMA PVT. LTD.
Sahajanand LASER TECHNOLOGY LTD.
Lupin Pharmaceuticals
torrent
Torrent Pharmaceuticals Ltd.
ERIS pharma
Aizant
Meril
More to Life
CORONA Remedies Pvt. Ltd.
Piramal Healthcare
knowledge action care
PL
ADVANTAGE
FEDORA HEALTHCARE SOLUTIONS
INTAS
Biopharmaceuticals
VIPRO
LIFE SCIENCE
ACCUPREC
RESEARCH LABS PVT. LTD.
Ultimate solution...
IQVIA
WOCKHARDT

Patents

1. Patent Title: Process and Composition for loading, stabilization, and delivery of RNAi Therapeutics in Anionic polymer, Indian Patent Application No. 201921019898 (Date: 21/05/ 2019)
   Name of Inventor: Rakesh Kumar Tekade, Nidhi Raval, Hardi Jogi, Piyush Gondaliya, Kiran Kalia

Books

2. **Tekade, R.K.(Editor).** (2019). BIOMATERIALS AND BIO-NANOTECHNOLOGY (A volume in Advances in Pharmaceutical Product Development and Research). USA: ELSEVIER ACADEMIC Press. doi:doi.org/10.1016/C2017-0-01066-2
3. **Tekade, R.K.(Editor).** (2019).Drug Delivery Systems (A volume in Advances in Pharmaceutical Product Development and Research) the USA: ELSEVIER ACADEMIC Press. doi.org/10.1016/C2017-0-01074-1
4. Paul, Sudip, Bhattacharya, Pallab, & Bit, Arindam. (2019). Early Detection of Neurological Disorders Using Machine Learning Systems (pp. 1-376). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-8567-1

Research Publications

1. Nidhi Raval, Akshant Kumawat, Dnyaneshwar Kalyane, Kiran Kalia, Rakesh K.Tekade. (2020). Understanding molecular upsets in diabetic nephropathy to identify novel targets and treatment opportunities, Drug Discovery Today.25(05), 862-878. doi.org/10.1016/j.drudis.2020.01.008
2. Shreya Thakkar, Dilip Sharma, Kiran Kalia, Rakesh K. Tekade. (2020) Tumor Microenvironment Targeted Nanotherapeutics for Cancer Therapy and Diagnosis: A review, Acta Biomaterialia. 101, 43-68. doi.org/10.1016/j.actbio.2019.09.009
3. Hira Choudhury, Rahul Maheshwari, Manisha Pandey, Muktika Tekade, Bapi Gorain, Rakesh Kumar Tekade. (2020) Advanced nanoscale carrier-based approaches to overcome biopharmaceutical issues associated with anticancer drug 'Etoposide, Materials Science and Engineering: C. 106, 110275. doi.org/10.1016/j.msec.2019.110275
4. Sunita Chawla, Dnyaneshwar Kalyane, Vishakha Tambe, Pran Kishore Deb, Kiran Kalia, Rakesh K.Tekade.(2020) Evolving nanoformulation strategies for diagnosis and clinical interventions for Parkinson's disease, Drug Discovery Today. 25(2), 392-405. doi.org/10.1016/j.drudis.2019.12.005
5. Pankaj Bidve, Namrata Prajapati, Kiran Kalia, Rakesh Tekade & Vinod Tiwari. (2020) Emerging Role of Nanomedicine in the Treatment of Neuropathic Pain, Journal of Drug Targeting. 28(1), doi.org/10.1080/1061186X.2019.1587444
6. Dignesh Khunt, Meenakshee Shrivas, Suryanarayana Polaka & Manju Misra. (2020) Role of Omega-3 Fatty Acids and Butter Oil in Targeting Delivery of Donepezil Hydrochloride Microemulsion to Brain via the Intranasal Route: a Comparative Study, AAPS PharmSciTech. 21(45),1-11. doi.org/10.1208/s12249-019-1585-7
7. Dhruvisha Pokar, Niraj Rajput, Pinaki Sengupta. (2020) Industrial approaches and consideration of clinical relevance in setting impurity level specification for drug substances and drug products, International Journal of Pharmaceutics. 119018. doi.org/10.1016/j.ijpharm.2019.119018
8. Maria Bandookwala, Pinaki Sengupta. (2020) 3-Nitrotyrosine: A versatile oxidative stress biomarker for major neurodegenerative diseases, International Journal of Neuroscience. doi.org/10.1080/00207454.2020.1713776
9. Ankush Dewle, Navanit Pathak, Prakash Rakshasmare, Akshay Srivastava. (2020). Multifarious Fabrication Approaches of Producing Aligned Collagen Scaffolds for Tissue Engineering Applications, ACS Biomaterials Science & Engineering. 6(2), 779–797. doi.org/10.1021/acsbiomaterials.9b01225
10. Prakash Niguram, Surya Narayana Polaka, Rajeshwari Rathod, Kiran Kalia & Abhijeet S. Kate. (2020). Update on compatibility assessment of empagliflozin with the selected pharmaceutical excipients employed in solid dosage forms by thermal, spectroscopic and chromatographic techniques, Drug Development and Industrial Pharmacy. 46(02), doi.org/10.1080/03639045.2020.1716371
11. Manish Kumar Sharma, Ravi P Shah, Pinaki Sengupta. (2020). Amalgamation of Stress Degradation and Metabolite Profiling in Rat Urine and Feces for Characterization of Oxidative Metabolites of Flibanserin using UHPLC-Q-TOF-MS/MS, H/D Exchange and NMR Technique, Journal of Chromatography B. 121993. doi.org/10.1016/j.jchromb.2020.121993
12. Rajasekhar Reddy Chilakala, Aparna Lakshmi Manchikalapudi, Ashok Kumar, Aditya Sunkaria. (2020). Sulforaphane Attenuates Aβ Oligomers Mediated Decrease in Phagocytic Activity of Microglial Cells, Neuroscience. 429, 225-234 doi.org/10.1016/j.neuroscience.2020.01.002
13. Disha Thakkar, Abhijeet S. Kate. (2020) 1-(Benzo[b]thiophen-4-yl)piperazine Ring Induced Bioactivation of Brexpiprazole in Liver Microsomes: Identification and Characterization of Reactive Conjugates Using Ultra-High-Performance Liquid Chromatography/Quadrupole Time-of-Flight Mass Spectrometry, European Journal of Drug Metabolism and Pharmacokinetics. 1-11. doi.org/10.1007/s13318-020-00606-8

14. Samdisha Dubey and Rachana Garg. (2020). miRNAS: In the Domain of Cancer Chemoresistance and Stem Cells, Acta Scientific Cancer Biology. 4 (2), 1-3.
15. Maria Bandookwala, Disha Thakkar & Pinaki Sengupta. (2020) Advancements in the Analytical Quantification of Nitroxidative Stress Biomarker 3-Nitrotyrosine in Biological Matrices, Critical Reviews in Analytical Chemistry.50(3), 265-289. doi.org/10.1080/10408347.2019.1623010
16. Abhijeet Parkhe, Pathik Parekh, Lakshmi Vineela Nalla, Nishant Sharma, Monika Sharma, Anagha Gadepalli, Abhijeet Kate, Amit Khairna. (2020) Protective effect of alpha mangostin on rotenone induced toxicity in rat model of Parkinson's disease, Neuroscience Letters. 716, 134652. doi.org/10.1016/j.neulet.2019.134652
17. Pratiksha Kochar, Kritika Nayak, Shreya Thakkar, Suryanarayan Polaka, Dignesh Khunt, Manju Misra. (2020) Exploring the Potential of Minoxidil Tretinoin Liposomal Based Hydrogel for Topical Delivery in the Treatment of Androgenic Alopecia, Cutaneous and Ocular Toxicology.39(01),43-53. doi.org/10.1080/15569527.2019.1694032
18. Heena Jariyal, Frank Weinberg, Abhinav Achreja, Deepak Nagarath, Akshay Srivastava. (2019) Synthetic lethality: a step forward for personalized medicine in cancer, Drug Discovery Today. 25(02), 305-320. doi.org/10.1016/j.drudis.2019.11.014
19. Tarang Jadav, Sonali Jain, Kiran Kalia & Pinaki Sengupta. (2020) Current Standing and Technical Guidance on Intracellular Drug Quantification: A New Site Specific Bioavailability Prediction Approach, Critical Reviews in Analytical Chemistry. 50(01), 50-61. doi.org/10.1080/10408347.2019.1570462
20. Manish Kumar Sharma, Rajeshwari Rathod, Pinaki Sengupta. (2020). Mass spectrometry based rapid quantitative bioanalysis of flibanserin; pharmacokinetic and brain tissue distribution study, Journal of Analytical Toxicology. doi.org/10.1093/jat/bkaa009
21. Vijaya Durga Chavali, Milee Agarwal, Vivek Kumar Vyas, Bhagawati Saxena. (2020). Neuroprotective Effects of Ethyl Pyruvate against Aluminum Chloride-Induced Alzheimer's Disease in Rats via Inhibiting Toll-Like Receptor 4, Journal of Molecular Neuroscience. 1-15. doi.org/10.1007/s12031-020-01489-9
22. Komal Pandey, Chaitrali Shevkar, Khemraj Bairwa & Abhijeet S. Kate. (2020). Pharmaceutical perspective on bioactives from Alstonia scholaris: ethnomedicinal knowledge, phytochemistry, clinical status, patent space, and future directions, Phytochemistry Reviews. 19,191–233. doi.org/10.1007/s11101-020-09662-z
23. Anuradha Gadeval, Rahul Maheshwari, Nidhi Raval, Dnyaneshwar Kalyane, Kiran Kalia & Rakesh K Tekade. (2020). Green graphene nanoplates for combined photo-chemo-thermal therapy of triple-negative breast cancer, Nanomedicine. 15(06), doi.org/10.2217/nnm-2019-0380
24. Maria Bandookwala, Kavya Sri Nemani, Bappaditya Chatterjee, Pinaki Sengupta. (2020). Reactive Metabolites: Generation and Estimation with Electrochemistry Based Analytical Strategy as an Emerging Screening Tool, Current Analytical Chemistry. DOI : 10.2174/1573411016666200131154202
25. Vishakha Tambe, Kuldeep Rajpoot, Dnyaneshwar Kalyane, Rakesh Tekade. (2020) siRNA delivery : ongoing Challenges and future Rodmap, Controlled Release Society, Indian Chapter Newsletter. 11, 12-18p.
26. Disha Thakkar, Abhijeet S. Kate. (2020) Update on Metabolism of Abemaciclib: In Silico, In vitro and In vivo Metabolite Identification and Characterization using High Resolution Mass spectrometry, Drug Testing and Analysis. 12(03), 331-342. doi.org/10.1002/dta.2725
27. Kritika Nayak, Manju Misra. (2020). PEGylated microemulsion for Dexamethasone delivery to posterior segment of eye, Journal of Biomaterials Science, Polymer Edition. doi.org/10.1080/09205063.2020.1740964
28. Dignesh Khunt, Surya narayana Polaka, Meenakshee Shrivas, Manju Misra. (2020). Biodistribution and amyloid beta induced cell line toxicity study of intranasal Rivastigmine microemulsion enriched with Fish Oil and Butter oil, Journal of Drug Delivery Science and Technology. 101661, http://doi.org/10.1016/j.jddst.2020.101661
29. Pooja Dhakne, Amit Kumar Sahu, Manish Kumar Sharma, Pinaki Sengupta. (2020). Simultaneous quantification of abemaciclib and letrozole in rat plasma: method development, validation and pharmacokinetic application, Biomedical Chromatography. https://doi.org/10.1002/bmc.4825
30. Kavya Jash, Piyush Gondaliya, Aditya Sunkaria & Kiran Kalia. (2020). MicroRNA-29b Modulates β-Secretase Activity in SH-SY5Y Cell Line and Diabetic Mouse Brain, Cellular and Molecular Neurobiology. doi.org/10.1007/s10571-020-00823-4

31. Aishika Datta, Deepaneeta Sarmah, Leela Mounica, Harpreet Kaur, Radhika Kesharwani, Geetesh Verma, Pabbala Veeresh, Vignesh Kotian, Kiran Kalia, Anupom Borah, Xin Wang, Kunjan R. Dave, Dileep R. Yavagal & Pallab Bhattacharya. (2020). Cell Death Pathways in Ischemic Stroke and Targeted Pharmacotherapy, Translational Stroke Research. doi.org/10.1007/s12975-020-00806-z
32. Aakash Katdare, Dignesh Khunt, Shreya Thakkar, Surya Narayana Polaka & Manju Misra. (2020). Comparative evaluation of fish oil and butter oil in modulating delivery of galantamine hydrobromide to brain via intranasal route: pharmacokinetic and oxidative stress studies, Drug Delivery and Translational Research. doi.org/10.1007/s13346-020-00739-y
33. Shashikala Bhute, Deepaneeta Sarmah, Aishika Datta, Pallavi Rane, Amit Shard, Avirag Goswami, Anupom Borah, Kiran Kalia, Kunjan R. Dave, Pallab Bhattacharya. (2020). Molecular pathogenesis and interventional strategies for Alzheimer's Disease: Promises and Pitfalls, ACS Pharmacol. Transl. Sci.. 3, 3, 472–488. doi.org/10.1021/acsptsci.9b00104
34. Prathibha Kirave, Piyush Gondaliya, Bhagyashri Kulkarni1, Rakesh Rawal, Rachana Garg, Alok Jain and Kiran Kalia. (2020). Exosome mediated miR-155 delivery confers cisplatin chemoresistance in oral cancer cells via epithelial-mesenchymal transition, Oncotarget, 11 (13), 1157-1171. https://doi.org/10.18632/oncotarget.27531
35. Harbhajan Ahirwar, Yubin Zhou, Chinmaya Mahapatra, Seeram Ramakrishna, Prasoon Kumar, and Himansu Sekhar Nanda. (2020). Materials for Orthopedic Bioimplants: Modulating Degradation and Surface Modification Using *Integrated Nanomaterials, Coatings, 10(3), 264. https://doi.org/10.3390/coatings10030264*
36. Swarali Joshi, Shaikh Raisa Parveen, Samdisha Dubey, Rutuja Satvase, Anil Kumar Tharalla, KVNS Manikanta, Kiran Kalia and Rachana Garg. (2020). Roadmap for Lung Cancer Treatment: Role of Natural and Synthetic Inhibitors, EC Pulmonology and Respiratory Medicine. 9 (4), 94-106.
37. Bharatkumar Chaudhary, Prashant Auti, Suchita Dattatray Shinde, Prasanna Anjaneyulu Yakkala, Deepesh Giri, and Satyasheel Sharma. (2019) Rh (III)-Catalyzed [3 + 2] Annulation via C–H Activation: Direct Access to Trifluoromethyl-Substituted Indenamines and Aminoindanes, organic letters. 21 (8), 2763–2767. DOI: 1021/acs.orglett.9b00720
38. AnuRadhaa, Sagar Kumar Patel, Raj Kumar Patle, Preethi Parameswaran, Alok Jain, Amit Shard. (2019) Design, computational studies, synthesis and biological evaluation of thiazole-based molecules as anticancer agents, European Journal of Pharmaceutical Sciences. 134, 20-30. doi.org/10.1016/j.ejps.2019.04.005
39. Satarupa Deb, Banashree Chetia Phukan, Muhammed Khairujjaman Mazumder, Ankumoni Dutta, Rajib Paul, Pallab Bhattacharya, Rajat Sandhir, Anupom Borah. (2019) Garcinol, a multifaceted sword for the treatment of Parkinson's disease, Neurochemistry International. 128, 50-57. doi.org/10.1016/j.neuint.2019.04.004
40. Vignesh Kotian, Deepaneeta Sarmah, Harpreet Kaur, Radhika Kesharwani, Geetesh Verma, Leela Mounica, Pabbala Veeresh, Kiran Kalia, Anupom Borah, Xin Wang, Kunjan R. Dave, Dileep R Yavagal, and Pallab Bhattacharya. (2019) Evolving evidences of calreticulin as a pharmacological target in neurological disorders, ACS Chemical Neuroscience. DOI: 10.1021/acschemneuro.9b00158
41. P. Appa Rao, K. Srinivasa Rao, T.R.K. Pydi Raju, Govinda Kapusetti , Mounika Choppadandi, M. Chaitanya Varma , K.H. Rao. (2019) A systematic study of cobalt-zinc ferrite nanoparticles for self-regulated magnetic hyperthermia, Journal of Alloys and Compounds. 794, 60-67. http://doi.org/10.1016/j.jallcom.2019.04.242
42. Aishwarya Dasare, Piyush Gondaliya, Akshay Srivastava, Kiran Kalia. (2019) A therapeutic approach towards microRNA29 family in vascular diabetic complications: A boon or curse?, Journal of Diabetes & Metabolic Disorders. doi.org/10.1007/s40200-019-00409-y
43. Kiran Katrajkar, Lalit Darji, Devilal Kethavath, Shreya Thakkar, Manju Misra. (2019) Shedding light on interaction of so called inactive ingredients (excipients) with permeability-glycoprotein, Journal of Drug Delivery Science and Technology, 52, 531-552. doi.org/10.1016/j.jddst.2019.05.022
44. Bappaditya Chatterjee, Bapi Gorain, Keithanchali Mohananaidu, Pinaki Sengupta, Uttam Kumar Mandal, Hira Choudhury. (2019) Targeted drug delivery to the brain via intranasal nanoemulsion: available proof of concept and existing challenges, International Journal of Pharmaceutics. 565, 258-268. doi.org/10.1016/j.ijpharm.2019.05.032
45. Venkata Krishna Reddy, Narayana Swamy, Rajeswari Rathod and Pinaki Sengupta. (2019) A Bioanalytical Method for Eliglustat Quantification in Rat Plasma, Journal of Chromatographic Science. 1-6. doi: 10.1093/chromsci/bmz033
46. Dhara N. Patel and Kiran Kalia. (2019) Characterization of low molecular weight urinary proteins at varying time intervals in type 2 diabetes mellitus and diabetic nephropathy patients. Diabetology & Metabolic Syndrome, 1-11. doi.org/10.1186/s13098-019-0430-1

47. Pran Kishore Deb, Balakumar Chandrasekaran, Raghuprasad Mailavaram, Rakesh Kumar Tekade, AbdulMuttaleb Yousef Jaber. (2019) Molecular modeling approaches for the discovery ofadenosine A2Breceptor antagonists: current status and future perspectives, Drug Discovery Today. 24(9), 1854-1864. doi.org/10.1016/j.drudis.2019.05.011
48. Manish Kumar Sharma, Pooja Dhakne, Sidhartha NN, P Ajitha Reddy, Pinaki Sengupta. (2019) Paradigm shift in the arena of sample preparation and bioanalytical approaches involving liquid chromatography mass spectroscopic technique. Analytical Sciences, https://doi.org/10.2116/analsci.19R003
49. Laximan Velip, Srikanth P., Sitesh Sah, Shraddha Jain, Surya Narayana P., Rajeshwari Rathod. (2019) An Overview Of Glucuronidation In Drug Metabolic Reactions And Its Metabolites Identification By Chromatographic *Methods, World Journal Of Pharmacy And Pharmaceutical Sciences. 8(06), 1492-1518. DOI: 10.20959/wjpps20196-14052*
50. Prasanna Anjaneyulu Yakkala, Deepesh Giri, Bharatkumar Chaudhary and Prashant Auti, Satyasheel Sharma. (2019) Regioselective C–H Alkylation and Alkenylation at C5 Position of 2-Amino-1,4-Naphthoquinones with Maleimides Under Rh(III) Catalysis, Organic Chemistry Frontiers. 14(6), 2441-2446. Doi. 10.1039/C9QO00538B
51. Satarupa Deb, Ankumoni Dutta, Banashree Chetia Phukan, Thamilarasan Manivasagam, Arokiasamy Justin-Thenmozhi, Pallab Bhattacharya, Rajib Paul, Anupom Borah. (2019) Neuroprotective attributes of L-theanine, a bioactive amino acid of tea, and its potential role in Parkinson's disease therapeutics, Neurochemistry International. 129, 104478. doi.org/10.1016/j.neuint.2019.104478
52. Meera Shrivas, Dignesh Khunt, Meenakshee Shrivas, Manisha Choudhari, Rajeshwari Rathod, Manju Misra. (2019) Advances in In Vivo Predictive Dissolution Testing of Solid Oral Formulations: How Closer to In Vivo Performance?, Journal of Pharmaceutical Innovation. 1-22. doi.org/10.1007/s12247-019-09392-6
53. Mohd Rihan, Lakshmi Vineela Nalla, Anil Dharavath, Amit Shard, Kiran Kalia, Amit Khairnar. (2019) Pyruvate Kinase M2: a Metabolic Bug in Re-Wiring the Tumor Microenvironment, Cancer Microenvironment. doi.org/10.1007/s12307-019-00226-0
54. Jackson Saraf, Deepaneeta Sarmah, Kanchan Vats, Harpreet Kaur, Kanta Pravalika, Madhuri Wanve, Kiran Kalia, Anupom Borah, Kunjan R Dave, Dileep R Yavagal & Pallab Bhattacharya. (2019) Intra-arterial stem cell therapy modulates neuronal calcineurin and confers neuroprotection after ischemic stroke, International Journal of Neuroscience. doi.org/10.1080/00207454.2019.1633315
55. Sanjay Garg, Vijayant Govind Gupta, Ashvamedh Singh and Rachana Garg. (2019) Thulium™: YAG Laser Partial Nephrectomy: A Successful Approach for Small Renal Masses, EC Clinical and Medical Case Reports. 2(3), 94-97.
56. Prakash Niguram, Abhijeet S.Kate. (2019) Structural characterization of forced degradation products of empagliflozin by high resolution mass spectrometry, Journal of Liquid Chromatography & Related Technologies. 42(13-14),417-428. doi.org/10.1080/10826076.2019.1625368
57. Anas Arab, Jana Ruda-Kucerova, Alzbeta Minsterova, Eva Drazanova, Nikoletta Szabó, Zenon Starcuk Jr, Irena Rektorova, Amit Khairnar. (2019) Diffusion Kurtosis Imaging Detects Microstructural Changes in a Methamphetamine-Induced Mouse Model of Parkinson's Disease, Neurotoxicity Research. 1-12. doi.org/10.1007/s12640-019-00068-0
58. Bhagyashri Kulkarni, Prathibha Kirave, Piyush Gondaliya, Kavya Jash, Alok Jain, Rakesh K. Tekade, Kiran Kalia. (2019) Exosomal miRNA in chemoresistance, immune evasion, metastasis and progression of cancer, Drug Discovery Today. 24(10), 2058-2067. doi.org/10.1016/j.drudis.2019.06.010
59. Akash R. Gohil, Sunil K. Deshmukh, Vaishali Bhattacharya, Rahul Lavhale, Shilpa Verekar & Abhijeet S. Kate.(2019) Exophiarin, an isocoumarin from the fungus Exophiala sp. with antihyperglycemic activity, Natural Product Research. doi.org/10.1080/14786419.2019.1624957
60. Chauhan Jaydeep, Gupta Harshita, Pandey Komal, Shah Viral, Kamble Bhagyashree. (2019) Herbosome an approach to deliver Aegle marmelos extract: Formulation, characterization and stability study, Journal of Drug Delivery and Therapeutics. 9(3-s):356-365. doi.org/10.22270/jddt.v9i3-s.2854
61. Shital P. Patil, Ashutosh Goswami, Kiran Kalia, Abhijeet S. Kate. (2019) Plant-Derived Bioactive Peptides: A Treatment to Cure Diabetes, International Journal of Peptide Research and Therapeutics. 1-14. doi.org/10.1007/s10989-019-09899-z
62. Prasoon Kumar, Prashant Agrawal, Kaushik Chatterjee. (2019) Challenges and opportunities in blood flow through porous substrate: A design and interface perspective of dried blood spot, Journal of Pharmaceutical and Biomedical Analysis.175,112772, doi.org/10.1016/j.jpba.2019.07.020

63. Shagun Sheoran, Prakriti Nidhi, Vikas Kumar, Gajender Singh, Uma Ranjan Lal, Anuradha Sourirajan, Kamal Dev. (2019) Altitudinal variation in gallic acid content in fruits of Phyllanthus emblica L. and its correlation with antioxidant and antimicrobial activity, Vegetos. 1-10. doi.org/10.1007/s42535-019-00048-x
64. N. Kaushik , N. Kumar, A. Kumar , S. Kumar and B. K. Chaudhary. (2019) Anticancer and Molecular Docking Studies of 1-(5-substituted phenyl) isoxazol-3-yl)-5-phenyl-1Htetrazoles, International Journal of Biochemistry Research & Review. 26(3): 1-12. IJBCRR.44594
65. Kavya Jash, Piyush Gondaliya, Prathibha Kirave, Bhagyashri Kulkarni, Aditya Sunkaria, Kiran Kalia. (2019) Cognitive dysfunction: A growing link between diabetes and Alzheimer's disease, Drug Development Research. doi.org/10.1002/ddr.21579
66. Charul Rathore, Navneet Kumar Upadhyay, Aditi Sharma, Uma Ranjan Lal, Kaisar Raza, Poonam Negi. (2019) Phospholipid nanoformulation of thymoquinone with enhanced bioavailability: Development, characterization and anti-inflammatory activity, Journal of Drug Delivery Science and Technology. 52, 316-324. doi.org/10.1016/j.jddst.2019.04.041
67. Priyanka Lohar, Manish Kumar Sharma, Amit Kumar Sahu, Rajeswari Rathod, Pinaki Sengupta. (2019) Simultaneous bioanalysis and pharmacokinetic interaction study of Acebrophylline, Levocetirizine and Pranlukast in Sprague Dawley rat, Biomedical Chromatography. 33(12), e4672. doi.org/10.1002/bmc.4672
68. Pathik Parekh, Nishant Sharma, Anagha Gadepalli, Abhishek Shahane, Monika Sharma, Amit Khairnar. (2019) A Cleaning Crew: The Pursuit of Autophagy in Parkinson's Disease, ACS Chemical Neuroscience. 10(09),3914-3926. doi.org/10.1021/acschemneuro.9b00244
69. Prashant Agrawal and Prasoon Kumar. (2019) Insight into the design and fabrication of a leaf mimicking micropump, Physical Review Applied.12(3), 1-6.doi.org/10.1103/PhysRevApplied.12.031002
70. Maria Bandookwala,Amit Kumar Sahu, Disha Thakkar, Monika Sharma, Amit Khairnar, Pinaki Sengupta. (2019) Edaravone-caffeine combination for the effective management of rotenone induced Parkinson's disease in rats: An evidence based affirmative from a comparative analysis of behavior and biomarker expression, Neuroscience Letters. 134438. doi.org/10.1016/j.neulet.2019.134438
71. Heena Jariyal, Chanchal Gupta, Vedika Sandeep Bhat, Jayant Ramakant Wagh, Akshay Srivastava. (2019) Advancements in Cancer Stem Cell Isolation and Characterization, Stem Cell Reviews and Reports. 1-19. doi.org/10.1007/s12015-019-09912-4
72. Mounika Choppadandi, Namdev More, Govinda Kapusetti. (2019) Detoxification of Poly (Methyl Methacrylate) Bone Cement by Natural Antioxidant Intervention, Journal of Biomedical Materials Research Part A. 107(12), 2835-2847. doi.org/10.1002/jbm.a.36785
73. Pabbala Veeresh, Harpreet Kaur, Deepaneeta Sarmah, Leela Mounica, Geetesh Verma, Vignesh Kotian, Radhika Kesharwani, Kiran Kalia, Anupom Borah, Xin Wang, Kunjan R. Dave, Anne-Marie Rodriguez, Dileep R. Yavagal, Pallab Bhattacharya. (2019) Endoplasmic reticulum–mitochondria crosstalk: from junction to function across neurological disorders, Annals of the New York Academy of Sciences. 1457(1), 41-60. doi.org/10.1111/nyas.14212
74. Deepak Pradhan, Vishakha Tambe, Nidhi Raval, Piyush Gondalia, Pallab Bhattacharya, Kiran Kalia, Rakesh K.Tekade. (2019) Dendrimer Grafted Albumin Nanoparticles for the Treatment of Post Cerebral Stroke Damages: A Proof of Concept Study, Colloids and Surfaces B: Biointerfaces. 184, 110488. doi.org/10.1016/j.colsurfb.2019.110488
75. Sagar Katakam, Rajeshwari Rathod, Poojadevi Sharma, Dharmesh Kachhadiya, Sheetal Anandjiwala, Sonal Sharma, Neeta Shrivastava. (2019) HPLC Coupled with Chemometric Analysis and LC–MS Studies of Three Flavonoids in Tephrosia purpurea (L.) Pers Revealed Impact of Chemodiversity on the Quest for the Chemical Markers, Journal of Chromatographic Science. 57(09), 821–827. doi.org/10.1093/chromsci/bmz058
76. Krushali Powale, Bhagyashree Kamble, Neelam Chauhan. (2019) Biocomputational approaches towards deciphering anti-dengue viral properties of synthetic and natural moieties, Advances in Human Biology.9(03), 198-202. doi.10.4103/2321-8568.266224
77. Aashu Gupta, Kritika Nayak, Manju Misra. (2019) Cow ghee fortified ocular topical microemulsion; in vitro, ex vivo, and in vivo evaluation, Journal Journal of Microencapsulation Micro and Nano Carriers. 36(07), 603-621. doi.org/10.1080/02652048.2019.1662121
78. Krishna A. Lad, Anurag Maheshwari, Bhagawati Saxena. (2019) Repositioning of an anti-depressant drug, agomelatine as therapy for brain injury induced by craniotomy, Drug Discoveries & Therapeutics. 13(04), 189-197. doi.org/10.5582/ddt.2019.01056

79. Jaicy Jacob, Namdev More, Choppadandi Mounika, Piyush Gondaliya, Kiran Kalia, Govinda Kapusetti. (2019) The Smart Piezoelectric Nanohybrid of Poly-(3-hydroxybutyrate-co-3-hydroxyvalerate) and Barium Titanate for Stimulated Cartilage Regeneration, ACS Applied Bio Materials. 2, (11), 4922–4931 doi.org/10.1021/acsabm.9b00667
80. SreeHarsha N, Maheshwari Rahul, Al-Dhubiab BE, Tekade M, Sharma MC, Venugopala KN, Tekade Rakesh Kumar, Alzahrani AM. (2019) Graphene-based hybrid nanoparticle of doxorubicin for cancer chemotherapy, International Journal of Nanomedicine. 14, 7419—7429. doi.org/10.2147/IJN.S211224
81. Heta Thakar, Silvy Mary Sebastian, Sumit Mandal, Amol Pople, Gopal Agarwal, Akshay Srivastava. (2019) Biomolecules-Conjugated Macroporous Hydrogels Attracts Biomedical Applications, ACS Biomaterials Science & Engineering. 5(12), 6320–6341. doi.org/10.1021/acsbiomaterials.9b00778
82. Shreya Thakkar, Namdev More, Dilip Sharma, Govinda Kapusetti, Kiran Kalia & Manju Misra. (2019) Fast dissolving electrospun polymeric films of anti-diabetic drug repaglinide: formulation and evaluation, Drug Development and *Industrial Pharmacy. 45(12), 1921-1930. http://doi.org/10.1080/03639045.2019.1680994*
83. Neelima Mahato, Mukty Sinha, Kavita Sharma, Rakoti Koteswararao, Moo Hwan Cho. (2019) Modern Extraction and Purification Techniques for Obtaining High Purity Food-Grade Bioactive Compounds and Value-Added Co-Products from CitrusWastes, foods. 8(11), 523. doi:10.3390/foods8110523
84. Nidhi Raval, Hardi Jogi, Piyush Gondaliya, Kiran Kalia & Rakesh K.Tekade. (2019) Method and its Composition for encapsulation, stabilization, and delivery of siRNA in Anionic polymeric nanoplex: An In vitro- In vivo Assessment, Scientific Reports. 9, 16047. doi:10.1038/s41598-019-52390-4
85. Snehal Khairnar, Namdev More, Choppadandi Mounika, Govinda Kapusetti. (2019) Advances in Contrast Agents for Contrast-Enhanced Magnetic Resonance Imaging, Journal of Medical Imaging and Radiation Sciences. 50(04), 575-589. doi.org/10.1016/j.jmir.2019.09.006
86. Tobias Lemke, Andrej Berg, Alok Jain, Christine Peter. (2019) EncoderMap(II): Visualizing Important Molecular Motions with Improved Generation of Protein Conformations, Journal of Chemical Information and Modeling.59 (11), 4550-4560. doi.org/10.1021/acs.jcim.9b00675
87. Sanjay Garg, Vijayant Govind Gupta, Ashvamedh Singh and Rachana Garg. (2019) Synchronous Primary Malignancy of Urinary Bladder and Kidney: A Rare Case Report, Acta Scientific Cancer Biology. 3(11), 20-21.
88. Kanchan Vats, Deepaneeta Sarmah, Aishika Datta, Jackson Saraf, Harpreet Kaur, Kanta Pravalika, Madhuri Wanve, Kiran Kalia, Anupom Borah, Kunjan R Dave, Dileep R Yavagal & Pallab Bhattacharya. (2019) Intra-arterial Stem Cell Therapy Diminishes Inflammasome Activation After Ischemic Stroke: a Possible Role of Acid Sensing Ion Channel 1a, Journal of Molecular Neuroscience. doi:10.1007/s12031-019-01460-3
89. Piyush Gondaliya, Aishwarya P. Dasare, Kavya Jash, Rakesh Kumar Tekade, Akshay Srivastava & Kiran Kalia. (2019) miR-29b attenuates histone deacetylase-4 mediated podocyte dysfunction and renal fibrosis in diabetic nephropathy, Journal of Diabetes & Metabolic Disorders.19,13-27. doi:10.1007/s40200-019-00469-0
90. Hiral Shrimali, Uttam Kumar Mandal, Manish Nivsarkar, Neeta Shrivastava. (2019) Fabrication and evaluation of a medicated hydrogel film with embelin from Embelia ribes for wound healing activity, Future Journal of Pharmaceutical Sciences. 5(12), 1-10. doi.org/10.1186/s43094-019-0011-z

Book Chapter

91. Devesh Kapoor, Rahul Maheshwari, Kanika Verma, Swapnil Sharma, Anil Pethe, Rakesh K.Tekade. '' Chapter 1 - Fundamentals of diffusion and dissolution: dissolution testing of pharmaceuticals" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 1-45. http://doi.org/10.1016/B978-0-12-814487-9.00001-6
92. Anuja Kapse, Neelima Anup, Vruti Patel, Gaurav K.Saraogi, Dinesh Kumar Mishra, Rakesh K.Tekade. "Chapter 6 - Polymeric micelles: a ray of hope among new drug delivery systems" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 235-289. http://doi.org/10.1016/B978-0-12-814487-9.00006-5
93. Vikas Pandey, Anuradha Gadeval, Saket Asati, Priyanka Jain, Navneet Jain, Ram Kumar Roy, Muktika Tekade, Vandana Soni, Rakesh K.Tekade. "Chapter 7 - Formulation strategies for nose-to-brain delivery of therapeutic molecules" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 291-332. http://doi.org/10.1016/B978-0-12-814487-9.00007-7

94. Vruti Patel, Chitra Rajani, Debleena Paul, Pooja Borisa, Kuldeep Rajpoot, Susanne R.Youngren-Ortiz, Rakesh K.Tekade. "Chapter 8 - Dendrimers as novel drug-delivery system and its applications" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 333-392. http://doi.org/10.1016/B978-0-12-814487-9.00008-9
95. Kuldeep Rajpoot, Muktika Tekade, Vikas Pandey, SreeHarsha Nagaraja, Susanne R.Youngren-Ortiz, Rakesh K.Tekade. "Chapter 9 - Self-microemulsifying drug-delivery system: ongoing challenges and future ahead" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 393-454. doi.org/10.1016/B978-0-12-814487-9.00009-0
96. Pran Kishore Deb, Sara Nidal Abed, Hussam Maher, Amal Al-Aboudi, Anant Paradkar, Shantanu Bandopadhyay, Rakesh K.Tekade. "Chapter 11 - Aerosols in pharmaceutical product development" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 521-577. doi.org/10.1016/B978-0-12-814487-9.00011-9
97. Devesh Kapoor, Rahul Maheshwari, Kanika Verma, Swapnil Sharma, Piyush Ghode, Rakesh K.Tekade. "Chapter 14 - Coating technologies in pharmaceutical product development" Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 665-719. http://doi.org/10.1016/B978-0-12-814487-9.00014-4
98. Chitra Rajani, Pooja Borisa, Tukaram Karanwad, Yogeshwari Borade, Vruti Patel, Kuldeep Rajpoot, Rakesh K.Tekade. "7 - Cancer-targeted chemotherapy: Emerging role of the folate anchored dendrimer as drug delivery nanocarrier" Pharmaceutical Applications of Dendrimers: Micro and Nano Technologies, Elsevier, 2020, pp. 151-198. http://doi.org/10.1016/C2017-0-00807-8
99. Satarupa Deb, Banashree Chetia Phukan, Ankumoni Dutta, Rajib Paul, Pallab Bhattacharya, Thamilarasan Manivasagam, Arokiasamy Justin Thenmozhi, Chidambaram Saravana Babu, Musthafa Mohamed Essa, Anupom Borah. "Natural Products and Their Therapeutic Effect on Autism Spectrum Disorder" Personalized Food Intervention and Therapy for Autism Spectrum Disorder Management, Springer, 2020, pp. 601-614. doi.org/10.1007/978-3-030-30402-7_22
100. Nidhi Raval, Rahul Maheshwari, Kiran Kalia, Rakesh Kumar Tekade. "Fabrication of Mucoadhesive-Dendrimers as Solid Dosage Forms" Pharmaceutical Nanotechnology. Methods in Molecular Biology, vol 2000. Humana, New York, 2019, pp 93-109. doi.org/10.1007/978-1-4939-9516-5_9
101. Rahul Maheshwari, Nidhi Raval, Rakesh Kumar Tekade. "Surface Modification of Biomedically Essential Nanoparticles Employing Polymer Coating" Pharmaceutical Nanotechnology. Methods in Molecular Biology, vol 2000. Humana, New York, 2019, pp 191-201. doi.org/10.1007/978-1-4939-9516-5_13
102. Sunita Chawla, Muktika Tekade, Rahul Maheshwari, Yashu Chourasiya, Gillian A.Hutcheon, Rakesh K.Tekade. "Chapter 2 - Engineered Mesenchymal Stem Cells as Nanocarriers for Cancer Therapy and Diagnosis" Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.19-56. doi.org/10.1016/B978-0-12-814427-5.00002-0
103. Neha Maheshwari, Umesh Kumar Atneriya, Muktika Tekade, Mukesh Chandra Sharma, Abdelbary Elhissi, Rakesh K.Tekade. "Chapter 3 - Guiding Factors and Surface Modification Strategies for Biomaterials in Pharmaceutical Product Development" Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.57-87. doi.org/10.1016/B978-0-12-814427-5.00003-2
104. Disha Mehtani, Ankit Seth, Piyoosh Sharma, Neha Maheshwari, Devesh Kapoor, Sushant K. Shrivastava, Rakesh K.Tekade. "Chapter 4 - Biomaterials for Sustained and Controlled Delivery of Small Drug Molecules" Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.89-152. doi.org/10.1016/B978-0-12-814427-5.00004-4
105. Pran Kishore Deb, Omar Husham Ahmed Al-Attraqchi, Johnson Stanslas, Ama lAl-Aboudi, Noor Al-Attraqchi, Rakesh K.Tekade. "Chapter 5 - Biotechnology-Based Pharmaceutical Products" " Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.153-189. doi.org/10.1016/B978-0-12-814427-5.00005-6
106. Ankita Mane, Neha Maheshwari, Piyush Ghode, Mukesh Chandra Sharma, Rakesh K.Tekade. "Chapter 6 - Approaches to the Development of Implantable Therapeutic Systems" Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.191-224. doi.org/10.1016/B978-0-12-814427-5.00006-8

107. Neha Maheshwari, Muktika Tekade, Yashu Chourasiya, Mukesh Chandra Sharma, Pran Kishore Deb, Rakesh K.Tekade. “Chapter 7 - Nanotechnology in Tissue Engineering” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.225-261. doi.org/10.1016/B978-0-12-814427-5.00007-X
108. Vandana Soni, Silki Chandel, Vikas Pandey, Saket Asati, Priyanka Jain, Aviral Jain, Rakesh K.Tekade. “Chapter 8 - Novel Therapeutic Approaches for the Treatment of Leishmaniasis” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.263-300. doi.org/10.1016/B978-0-12-814427-5.00008-1
109. Muktika Tekade, Neha Maheshwari, Hira Choudhury, Bapi Gorain, Pran Kishore Deb, Rakesh K.Tekade, Mukesh Chandra Sharma. “Chapter 9 - Up-to-Date Implications of Nanomaterials in Dental Science” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.301-336. doi.org/10.1016/B978-0-12-814427-5.00009-3
110. Shantanu Bandopadhyay, Nabamita Bandyopadhyay, Sarfaraz Ahmed, Vivek Yadav, Rakesh K.Tekade. “Chapter 10 - Current Research Perspectives of Orthopedic Implant Materials” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.337-374. doi.org/10.1016/B978-0-12-814427-5.00010-X
111. Pran Kishore Deb, Haifa'a Marouf Abdellatif Odetallah, Bilal Al-Jaidi, Raghuram Rao Akkinepalli, Amal Al-Aboudi, Rakesh K.Tekade. “Chapter 11 - Biomaterials and Nanoparticles for Hyperthermia Therapy” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.375-413. doi.org/10.1016/B978-0-12-814427-5.00011-1
112. Kaushik Kuche, Pramina Kumari Pandey, Abhimanyu Patharkar, Rahul Maheshwari, Rakesh K.Tekade. “Chapter 12 - Hyaluronic Acid as an Emerging Technology Platform for Silencing RNA Delivery” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp.415-458. doi.org/10.1016/B978-0-12-814427-5.00012-3
113. Neha Maheshwari, Muktika Tekade, Namrata Soni, Piyush Ghode, Mukesh Chandra Sharma, Pran Kishore Deb, Rakesh K.Tekade. “Chapter 16 - Functionalized Carbon Nanotubes for Protein, Peptide, and Gene Delivery” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp. 613-637. doi.org/10.1016/B978-0-12-814427-5.00016-0
114. Nidhi Raval, Dnyaneshwar Kalyane, Rahul Maheshwari, Rakesh K.Tekade. “Chapter 17 - Surface Modifications of Biomaterials and Their Implication on Biocompatibility” Biomaterials and Bionanotechnology Advances in Pharmaceutical Product Development and Research, Academic Press, Elsevier, 2019, pp. 639-674. doi.org/10.1016/B978-0-12-814427-5.00017-2
115. Satarupa Deb, Muhammed Khairujjaman Mazumder, Ankumoni Dutta, Banashree Chetia Phukan, Pallab Bhattacharya, Rajib Paul, Anupom Borah. “Therapeutic implications of anti-inflammatory natural products in Alzheimer’s disease” Discovery and Development of Anti-Inflammatory Agents from Natural Products: Natural Product Drug Discovery, Elsevier, 2019, pp.241-258. doi.org/10.1016/B978-0-12-816992-6.00008-5
116. Christoph Globisch, Marc Isele, Christine Peter, and Alok Jain. “CHAPTER 8 In Silico Approaches to Design and Characterize Peptide-based Nanostructures” Nanoparticle–Protein Corona: Biophysics to Biology, RSC, 2019, 204-226. doi.org/10.1039/9781788016308-00204
117. Kuldeep Rajpoot, Rakesh K. Tekade. “Chapter 10 - Microemulsion as drug and gene delivery vehicle: an inside story” Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 455-520. doi.org/10.1016/B978-0-12-814487-9.00010-7
118. Ashika Advankar, Rahul Maheshwari, Vishakha Tambe, Pooja Todke, Nidhi Raval, Devesh Kapoor, Rakesh K.Tekade. “Chapter 13 - Specialized tablets: ancient history to modern developments” Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 615-664. doi.org/10.1016/B978-0-12-814487-9.00013-2
119. Aashu Gupta, Rahul Maheshwari, Kaushik Kuche, Gillian A.Hutcheon, Rakesh K.Tekade. “Chapter 15 - Regulatory assessment for controlled drug delivery products” Drug Delivery Systems: Advances in Pharmaceutical Product Development and Research, Elsevier,2019, 721-741. doi.org/10.1016/B978-0-12-814487-9.00015-6

120. Geetesh Verma, Radhika Kesharwani, Pabbala Veeresh, Harpreet Kaur, Deepaneeta Sarmah, Vignesh Kotian, Leela Mounica, Anupom Borah, Kiran Kalia, Pallab Bhattacharya. "Advances in Diagnostic Techniques for Therapeutic Intervention" Biomedical Engineering and its Applications in Healthcare, Springer Nature, 2019, pp.105-121. doi.org/10.1007/978-981-13-3705-5_5
121. Govinda KapusettiNamdev MoreMounika Choppadandi. "Introduction to Ideal Characteristics and Advanced Biomedical Applications of Biomaterials" Biomedical Engineering and its Applications in Healthcare, Springer Nature, 2019, pp. 171-204. doi.org/10.1007/978-981-13-3705-5_8
122. Vignesh Kotian, Leela Mounica, Deepaneeta Sarmah, Harpreet Kaur, Geetesh Verma, Radhika Kesharwani, Pabbala Veeresh, Anupom Borah, Kiran Kalia, Pallab Bhattacharya. "Physical Impairments Associated with Diseases: A Pathophysiological Approach" Biomedical Engineering and its Applications in Healthcare, Springer Nature, 2019, pp. 597-617 doi.org/10.1007/978-981-13-3705-5_24
123. Harpreet KaurDeepaneeta SarmahKiran KaliaAnupom BorahKunjan R. DaveDileep R. Yavagal, Pallab Bhattacharya. "Animal Models of Ischemic Stroke" Application of Biomedical Engineering in Neuroscience, Springer, 2019, pp. 41-50. doi.org/10.1007/978-981-13-7142-4_2
124. Uma Ranjan Lal and Inder Pal Singh. "Review and Implications of Traditional Indian Medicine for Inflammatory Bowel Disease" Translational Studies on Inflammation: Open access peer-reviewed Edited Volume, IntechOpen,2019, pp. 1-13 DOI: 10.5772/intechopen.89465

Peer-Reviewed Abstracts

125. Gargi Vaidya, Dinesh Kumar. (2020). Sustainable synthesis of 2/3-aryl indoles under Pd-catalysis in SPGS-550-M micellar medium, 259th ACS National Meeting & Exposition, Philadelphia, PA, United States, March 22-26, 2020
126. Deepaneeta Sarmah, Harpreet Kaur, Kanchan Vats, Kiran Kalia, Dileep R Yavagal, Pallab Bhattacharya. (2019) Abstract 429: Inflammasome Mediated Reduction of Myeloperoxidase in Ischemic Stroke by Intra-arterial Mesenchymal Stem Cell Therapy, Arteriosclerosis, Thrombosis, and Vascular Biology. 2019;39:A429
127. Pallab Bhattacharya, Deepaneeta Sarmah, Harpreet Kaur, Kanchan Vats, Jackson Saraf, Kiran Kalia, Dileep Yavagal. (2019). Intraarterial mesenchymal stem cell therapy modulates inflammasome to confer neuroprotection in animal model of ischemic stroke (P2.3-026), Neurology. 92(15), Supplement P2.3-026.
128. Sharma, D., Vats, K., Saraf, J., Kaur, H., Kalia, K., Yavagal, D., & Bhattacharya, P. (2019). Abstract TP140: Intra-Arterial Mesenchymal Stem Cell Therapy Modulates Expression of NLRP1 Inflammasome in Animal Model of Ischemic Stroke (Vol. 50, Suppl_1). Dallas, Texas: Stroke Journal, the American Heart Association (JAHA). doi.org/10.1161/str.50.suppl_1.TP140.

Invited Talks

- **Dr. Pinaki Sengupta**, Department of Pharmaceutical Analysis, NIPER-A delivered a talk on "An overview on bioanalysis and bioanalytical method validation" at workshop on "Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution" NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
- **Dr. Abhijeet kate**, Department of Natural Product, NIPER-A delivered a talk on "Development and optimization of LCMS method" at workshop on "Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution" NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
- **Dr. Ravi Shah**, Department of Pharmaceutical Analysis, NIPER-A delivered a talk on "Need for in-vivo in-vitro correlation for drug bioavailability" at a workshop on "Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution" NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
- **Dr. Manju Misra**, Department of Pharmaceutics NIPER-A Delivered a talk as a resource person at AICTE sponsored 2 weeks Faculty Development Programme [FDP] at Ganpat University, Mehsana, Gujrat on "Ocular drug delivery: current understanding and future perspective" on 2nd August 2019.

- **Prof. Kiran Kalia**, Director NIPER-Ahmedabad, delivered a talk on "PROGNOSTIC MARKERS FOR DIABETIC NEPHROPATHY" at the Institute of Chemistry, University of Kelaniya, Sri Lanka. 23rd August 2019

Oral Presentations

- **Dr. Rachana Garg**, Department of Biotechnology NIPER-A Delivered a talk on " Cox-2 Mediates Pro-Tumorigenic Effects Of Protein Kinase C Epsilon In Prostate Cancer" at the National Symposium on Basic and Translational Research in Cancer Biology, at Institute of Advanced Research, Gandhinagar, India. 11-12 September 2019
- **Dr. Rachana Garg**, Department of Biotechnology NIPER-A Delivered an oral talk on " Identification of novel targets for cancer therapy" at the Meeting of Senior Scientific and Dental Officers, South Western Air Force Command. The theme of the meeting was: Comprehensive Health Care Delivery at SMC and Hospitals, Issues, Solutions, and Wy forward" held at Gandhinagar, India. 06 September 2019
- **Dr. Ravi Shah,** Department of Pharmaceutical Analysis, Presented an Oral Paper on"Technical Seminar on Nitroso Impurities in Pharmaceuticals organized by IPA- IDMA & LMCP at Ahmedabad" 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad held on February 23-25, 2020, Ahmedabad, Gujarat
- **Mr. Vaibhav Shitole** presented a poster and oral pitch on his research work " Hydrophilic porous material based blood micro-sampler for pharmaceutical and biomedical applications" in the International Conference on "Biomaterial Based Therapeutic Engineering and Regenerative Medicine" held on 28 Nov - 01 Dec 2019 at IIT Kanpur.
- **Mr. Manish Kumar Sharma**, Department of Pharmaceutical Analysis NIPER-A Delivered a talk at 5th biannual "Doping and Human Exercise Performance" symposium to be held on November 11-15, 2019 at the University of Copenhagen on "Performance Enhancing Substance adulterant in dietary supplements and talk about anti-doping science, success in detection when more intelligent data-driven approach implemented."
- **Dr. Govinda Kapusetti**, Department of Medical Devices NIPER-A Delivered a talk and panel discussion member at Nanobiotech 2019, organized by the Indian Society of Nanomedicine, IISER - Bhopal, and AIIMS - Bhopa at Aerocity, New Delhi on 21st -23rd Nov 2019.
- **Dr. Prasoon Kumar**, Department of Medical Devices NIPER-A Delivered a talk at 6th International Conference on Microfluidics and lab-on-chip organized by selection at Novotel Mumbai Juhu Beach, Mumbai, Maharashtra on "Design, fabrication, and working of a leaf-mimicking micropump" on 12 September 2019.

- **Dr. Manju Misra** presented an oral paper on "Drying of nanosuspension using electrospraying technique: effect on powder reconstitution" in 9th International Granulation Workshop, 26th to 28th June 2019 at Lausanne, Switzerland.
- **Miss Shreya Thakkar**, presented a pitch on "Neurofood: Vegan wholesome food for elderly" in Nestle Powder challenge 1.0 on 28th June 2019 as a part of 9th International Granulation Workshop at Nestle Research Center Lausanne, Switzerland.
- **Mr. Piyush Kumar Gondaliya** presented an oral presentation on "miR-29b modulates DNA methylation in diabetic nephropathy" World nephrology conference-2019 held in Tokyo, Japan

Poster Presentations

1. Mr. Arnab Chowdhury, Ms. Ayushi Sharma, Ms. Anwesha Das, and Amit Shard*. "Design and Synthesis of Quinazolinone based Compounds as Tumor Pyruvate Kinase (PKM2) Activator". 3rd National Conference in Chemistry (NCONC-2020) organized by IITGN, held on 12-13 February 2020 Gandhinagar, Gujarat.
2. Amit Kumar Sahu, Ashutosh Goswami, Pinaki Sengupta*. "Synthesis and Structural Elucidation of N- Formylated Degradation Product of Ribociclib". 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad, held on February 23-25, 2020, Ahmedabad, Gujarat.
3. Harsh Thakkar and Ravi P Shah*. "HILIC-HRMS method for MDA: more than "just" biomarker!". 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad, held on February 23-25, 2020, Ahmedabad, Gujarat.
4. Niraj Rajput, Amit Kumar Sahu, Pinaki Sengupta*. "Establishment of a Stability Indicating RP-HPLC Assay Method for Quantitative Determination of Binimetinib and Characterization of Its Major Degradants by LC-MS/MS". 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad held on February 23-25, 2020, Ahmedabad, Gujarat.
5. Vaibhav shitole, Pinaki Sengupta, Prasoon Kumar. Hydrophilic porous material based blood micro-sampler for pharmaceutical and biomedical applications. International Conference (BioTERM 2019) on "Biomaterial Based Therapeutic Engineering and Regenerative Medicine" held at IIT Kanpur.
6. Manish Kumar Sharma, Ravi Shah, Pinakisengupta. Identification & Characterization of Oxidative Metabolite of Flibanserin Performance Enhancing Substance and Pharmacokinetic Study in Rat Plasma and Brain by a Validated UPLC–MS/MS Method. 5th biannual "Doping and Human Exercise Performance" symposium to be held on November 11-15, 2019 at the University of Copenhagen
7. Harshada Bhalerao, Harsh Thakkar, Amit Khairnar, Rajeshwari Rathod." Bufotenine in urine a non-invasive marker for diagnosis of Schizophrenia" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
8. Polaka Suryanarayana, Chaudari Dashrath, Dignesh Khunt, Shreya Thakkar, Krithika Nayak. "In-vitro permeation studies to investigate the role of butter oil in delivering Aripiprazol across nasal mucosa" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
9. Gopal Agarwal, Govinda Kapusetti, Navin Kumar, Akshay Srivastava. "Electroconductive, ATP promoting and highly ordered amino functionalized graphene crosslinked collagen cryogels for neural tissue engineering" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019.
10. Ruhi Kale, Ritu Soni, Sayan Chatterjee, Nishant Sharma. "Exploring the role of caffeine and caffeine combined with chlorogenic acid on gut in rotenone-induced mouse model of Parkinson's disease" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
11. Nishant Sharma, Amit Khairnar" To Explore The Role Of Dextran Sodium Sulphate Induced Inflammation In Intragastric Rotenone Mouse Model Of Parkinson's Disease" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
12. Harsh Thakkar, Dr. Ravi Shah "Beware of Biomarker MDA Detection Methodology in Neurological Disorders! Need for an Accurate Method !" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019

13. Niraj Tadasare, Sakeel Ahmed, Nishant Sharma, Sayan Chatterjee, Amit Khairnar. “Exploring the Anti-inflammatory effect of tobacco components via -7 nicotinic acetylcholine receptor in brain and intestine using chronic rotenone mouse model of Parkinson’s disease” at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019.
14. Chaitali Shaha, Sanjeev Kumar, Bharat Chaudhary, Sayan Chattergy, Satyasheel Sharma, Dinesh Kumar, Kiran Kaliya, Amit Khairnar. "Exploring the effect of Indole and Aminoindane derivatives as selctive MAO-B inhibitor in models of Parkinson's disease." at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
15. Radhika Kesharwani, Deepaneeta Sarmah, Harpreet Kaur, Kiran Kalia, Anupom Borah, Kunjan R Dave, Dileep R Yavagal, and Pallab Bhattacharya. “Inhibition of Caspase-1 By Stem Cell Therapy to Prevent Mitophagy and Neuronal Cell Death in Cerebral Ischemia” at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
16. Mariya Bohra, Priya Jagtap, Deepaneeta Sarmah, Madhuri Wanve, Harpreet Kaur, Aishika Datta, Kiran Kalia, Dileep R Yavagal, Pallab Bhattacharya. “Neuroprotective role of melatonin and interferon-β combination in ischemic stroke’’ at International Conference on Neurological Disorders and Therapeutics held at NIPER-A, Gandhinagar, Gujrat, India on October 24-26,2019
17. Falguni baidya, Upasna Singh, Vignesh Kotian, Deepaneeta Sarmah, Harpreet Kaur, Aishika Datta, Kiran Kalia, Dileep R Yavagal, Pallab Bhattacharya. “Deciphering the role of IA (Intra arterial) MSCs (Mesenchymal stem cells) in the interplay of Calcineurin and Calreticulin in Ischemic Stroke” at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
18. Ankan Sarkar, Leela Mounica, Aishika Datta, Harpreet Kaur, Deepaneeta Sarmah, Kiran Kalia, Dileep R Yavagal, Pallab Bhattacharya. "Intra-arterial (IA) Mesenchymal Stem Cells (MSCs) impede DAP Kinase Pathway to Confer Neuroprotection in Rodent Model of Ischemic Stroke" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019
19. Ritu Soni, Abhishek Shahane, Ruhi Kale, Monika Sharma, Amit Khairnar." Exploring neuroprotective role of chlorogenic acid mediated by GLP1 release and PI3K/AKT/GSK3beta pathway in chronic rotenone mouse model of Parkinson's disease" at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019.
20. Birva Shah, Swapnil Raut, Pabbala Veeresh, Harpreet Kaur, Aishika Datta, Deepaneeta Sarmah, Kiran Kalia, Dileep R Yavagal, Pallab Bhattacharya. “Intra-arterial delivery of Mesenchymal Stem Cells (MSCs) prevents Endoplasmic Reticulum-Unfolded Protein Response (ER-UPR) mediated cell death in Ischemic stroke”at International Conference on Neurological Disorders and Therapeutics held at NIPER- A, Gandhinagar, Gujarat, India on October 24-26, 2019.
21. Jaswinder Kaur, Siddhi Rakhe, Monika Sharma, Amit Khairnar" Development of intranasal mouse model of Parkinson's disease and it's validation through associated neurodegenerative and neuroinflammatory markers"at International Conference on Neurological Disorders and Therapeutics held at NIPER-A, Gandhinagar, Gujarat, India on October 24-26 2019.
22. Pallab Bhattacharya, Deepaneeta Sarmah, Harpreet Kaur, Dileep R. Yavagal. Intra-arterial stem cell therapy activates BDNF-TrkB signaling pathway to improve post-stroke outcome in senescent rodent model of ischemic stroke. 10th IBRO World Congress of Neuroscience: IBRO 2019, Daegu, Republic of Korea, 21st- 25th September, 2019.
23. Tarang Jadav, Niraj Rajput, Dhruvisha Pokar, Dr. Pinaki Sengupta, “Development of a liquid chromatography- mass spectrometry method for quantification of cidofovir and its metabolites in rat peripheral blood mononuclear cells” , at 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
24. N.N. Sidhartha, Akhila Pyaran, Jayshri Deore, Dr. Pinaki Sengupta, “Establishment of bioanalytical method for quantitation of gefitinib and capecitabine in Rat plasma by RP-HPLC”, at 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
25. Jaswinder Kaur, Siddhi Rakshe, Monika Sharma, Dr.Amit Khairnar,"Development of progressive intranasal mouse model of Parkinson’s Disease and validation through associated Neurodegenerative and neuroinflammatory markers", at 9th Pharma Vision National level seminar held at Charusat University Changa, Gujarat, on 8th september 2019

26. Darshan Contractor, Dr. Alok Jain, “Regulation of Histone De-acetylases: An Approach of Structural Biology in Drug Design”, at "MOLMED-2019" International Conference on Molecular Medicine with special reference to Structural Biology and Nanotechnology, held at CHARUSAT University, Changa, Gujarat, on 26th September 2019
27. Manish Kumar Sharma, Rajeshwari Rathod and Pinaki Sengupta, Rapid Determination of Flibanserin in Rat Plasma and Brain by a Validated UPLC-MS/MS method, National Seminar on “Challenges & Opportunities in Analytical Characterization of Biosimilars”, Nirma University, Ahmedabad, Gujarat, 17th August 2019
28. Hiray Aishwarya, Das Priya, Thakkar Disha, Kate Abhijeet. In silico and in vitro metabolite identification of swertiamarin from Enicostemma littorale blume. National Seminar on “Herbal Drug Technology: Emerging Trends, Challenges and Scope", Nirma University, Ahmedabad, Gujarat, 17th August 2019.
29. Shreya Thakkar, Devilal Rathod, Manju Misra. Thermal methods how accurately they can be used for assessment of mixing uniformity. 9th International Granulation Workshop, 2019. Lausanne, Switzerland, 26th -28th June, 2019.
30. Harpreet Kaur, Deepaneeta Sarmah, Jackson Saraf, Kiran Kalia, Dileep R. Yavagal, Pallab Bhattacharya. Intra-arterial delivery of mesenchymal stem cells modulates neuronal calcineurin expression in a rodent model of ischemic stroke.

National-International Conference/ Workshops/Seminar / Symposium attended

1. Mr.Arnab Chowdhury M.S. Students of Medicinal Chemistry Department attended 3rd National Conference in Chemistry (NCONC-2020) organized by IITGN, held on 12-13 February 2020 Gandhinagar, Gujarat.
2. Ms. Ayushi Sharma M.S. Students of Medicinal Chemistry Department attended 3rd National Conference in Chemistry (NCONC-2020) organized by IITGN, held on 12-13 February 2020 Gandhinagar, Gujarat.
3. Ms. Anwesha Das M.S. Students of Medicinal Chemistry Department attended 3rd National Conference in Chemistry (NCONC-2020) organized by IITGN, held on 12-13 February 2020 Gandhinagar, Gujarat.
4. Niraj Rajput M.S. Students of pharmaceutical analysis Department attended 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad held on February 23-25, 2020, Ahmedabad, Gujarat.
5. Harsh Thakkar Ph.D. Scholar of pharmaceutical analysis Department attended 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad held on February 23-25, 2020, Ahmedabad, Gujarat.
6. Amit Kumar Sahu Ph.D. Scholar of pharmaceutical analysis Department attended 2020 Applied Pharmaceutical Analysis India Conference organized by The Boston Society Courtyard by Marriott, Ahmedabad held on February 23-25, 2020, Ahmedabad, Gujarat.
7. Dr. Ravi Shah, Department of Pharmaceutical Analysis, NIPER-A delivered a talk on “Need for in-vivo in-vitro correlation for drug bioavailability” at workshop on “Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution” NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
8. Dr. Pinaki Sengupta, Department of Pharmaceutical Analysis, NIPER-A delivered a talk on “An overview on bioanalysis and bioanalytical method validation” at workshop on “Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution” NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
9. Dr. Abhijeet kate, Department of Natural Product, NIPER-A delivered a talk on “Development and optimization of LCMS method” at workshop on “Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution” NIPER-Ahmedabad, Gandhinagar, 21-25 January 2020
10. Dr. Ravi P Shah, Associate Professor, Department of Pharmaceutical Analysis, NIPER, Ahmedabad attended “Technical Seminar on Nitroso Impurities in Pharmaceuticals organized by IPA- IDMA & LMCP at Ahmedabad” 27th December 2019, Ahmedabad (Invited Member of Speaker and Panelist of Panel discussion)
11. Mr. Manish Kumar Sharma attended the 5th biannual “Doping and Human Exercise Performance” symposium held on November 11-15, 2019 at the University of Copenhagen. Mr. Manish is among the two incredible scientists selected by the PCC globally to attend the symposium offered by the Department of Nutrition, Exercise & Sport Sciences, University of Copenhagen, Denmark.
12. Abhijeet Arjun Pawar, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019

13. Abhishek Roy, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
14. Adil Ali, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
15. Aher Hrushikesh Muktaram, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
16. Aishika Datta, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
17. Amarnath Hatui, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
18. Ambika Chamoli, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
19. Amit Kumar Sahu, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
20. Anjali Bitla, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
21. Ankan Sarkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
22. Ankush Dewle, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
23. Anoushka Bhat, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
24. Anuradha Gadeval, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
25. Anwesha Das, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
26. Ashlesha Singh, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
27. Ashutosh Goswami, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
28. Ashwini N., attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
29. Asmita Choithramani, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
30. Ayushi Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
31. Bharatkumar Chaudhary, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
32. Bhaskar Dewangan, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
33. Birva Shah, attended " International Conference On Neurological Disorders & Therapeutic s(ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
34. Chaitali Shaha, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
35. Chaitrali Shevkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
36. Chandana Kamballapally, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019
37. Deepaneeta Sarmah, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) " organised by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October, 2019

38. Dignesh Khunt, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
39. Dilip Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
40. Dinesh Parshuram, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
41. Disha Thakkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
42. Dnyaneshwar Kalyane, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
43. Falguni Baidya, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
44. Fathima I.S., attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
45. Femina Malim, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
46. Gargi Vaidya, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
47. Gopal Agarwal, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
48. Harpreet Kaur, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
49. Harsh Thakkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
50. Miss. Harshada Bhalerao, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
51. Heena Jariyal, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
52. Jaswinder Kaur, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
53. Kalyani Rattan Lal Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
54. Kavya Teja, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
55. Kirti Adhikari, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
56. Komal Pandey, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
57. Kritika Nayak, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
58. Lakshmi Vineela Nalla, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
59. Mahmadul Hassan, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
60. Mamidi Teena Naga Saisrilakshmi Saraswati, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
61. Manasi Sarjerao Ghatage, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019

62. Manish Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
63. Mariya Bohra, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
64. Meenakshi Chaurasia, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
65. Mihir Kachhia, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th ctober 2019
66. Mithilesh Nagpure, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
67. Mohd Mukarram, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
68. Monika Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
69. Mounika Choppadandi, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
70. Namdev More, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
71. Neelanjan Chowdhury, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
72. Neelima Anup, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
73. Neeraj Kulkarni, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
74. Nehanaz Faiyazhusain Saiyed, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
75. Nidhi Parihar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
76. Nidhikumari Raval, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
77. Mr. Niraj Tadasare, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
78. Mr. Nishant Sharma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
79. Palak Bhat, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
80. Patel Vaidehi Deepakkumar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
81. Pathik Parekh, attended " International Conference On Neurological Disorders & Therapeutics(ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
82. Payal Dilip Meshram, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
83. Piyush Gondaliya, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
84. Polaka Suryanarayan, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
85. Pooja Rana, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019

86. Prakash Niguram, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
87. Pramod Kumar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
88. Pranav Rameshrao Kumbhkarn, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
89. Priti Patale, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
90. Priya Raosaheb Jagtap, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
91. Priyanka Pulugu, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
92. Radhika Kesharwani, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
93. Ravi Prakash Kumar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
94. Miss. Ritu Soni, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
95. Rudradip Das, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
96. Miss. Ruhi Kale, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
97. Sagar Salave, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
98. Sagar Kumar Patel, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
99. Sakeel Ahmed, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
100. Sakshi Bhatele, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
101. Samdisha Dubey, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
102. Satwik Dastane, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
103. Sayan Chatterjee, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
104. Shreya Thakkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
105. Siddhi Raskhe, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
106. Smreeti, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
107. Sonali Jain, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
108. Sonam Dolma, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
109. Suchita D., attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
110. Sulogna Sarkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019

111. Sulogna Sarkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
112. Sunil Chhabu Rongate, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
113. Sushil Samadhan Edake, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
114. Swapnil Raut, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
115. Swarali Joshi, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
116. Tanay Dalvi, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
117. Tarang Jadav, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
118. Upasna Singh, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
119. Urjita Shirwadkar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
120. Vishakha V. Tambe, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
121. Vishal Gupta, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
122. Vivek Kumar, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
123. Vrushali Shankar Thongire, attended " International Conference On Neurological Disorders & Therapeutics (ICNDT-2019) "organized by NIPER-Ahmedabad, Gandhinagar, Gujarat, India, during 24th to 26th October 2019
124. Dr. Prasoon Kumar attended "6th International Conference on Microfluidics and Lab-on-chip" organized by selectbio at Novotel Mumbai Juhu Beach, Mumbai, Maharashtra, India, during 12th to 13th September 2019.
125. Darshan Contractor, attended "MOLMED-2019" International Conference on Molecular Medicine with special reference to Structural Biology and Nanotechnology, organized by CHARUSAT University, Changa, at CHARUSAT Campus, Changa, Gujarat, during 25th to 27th September 2019.
126. Dr. Prasoon attended and represented NIPER-A IIC in " IIC 2.0 and Innovation Annual Festival" at AICTE headquarter, Vasant Kunj, New Delhi on 11th September 2019
127. Ms. Akhila Pyaran attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
128. Ms. Jayshri Deore attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
129. Ms. Jaswinder Kaur attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
130. Mr. Niraj Hukumsingh Rajput attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 8th September 2019.
131. Ms. Ritu Soni attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 7th September 2019.
132. Ms. Ruhi Kale attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 7th September 2019.
133. Ms. Chaitrali Shah attended 9th Pharma Vision National level seminar held at Charusat University, Changa, Gujarat, on 7th September 2019.
134. Ms. Disha Thakkar attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.

135. Mr. Prakash Niguram attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
136. Mr. Manish Sharma attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
137. Mr. Harsh Thakkar attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
138. Ms. Sonali Jain attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
139. Mr. Tarang Jadav attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
140. Mr. Rudradip Das attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
141. Mr. Dinesh Satpute attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
142. Ms. Shinde Suchita attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
143. Ms. Lakshmi Vineela Nalla attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
144. Ms. Monika Sharma attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
145. Mr. Nishant Sharma attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
146. Ms. Aishika Datta attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
147. Mr. Abhishek Roy attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
148. Ms. Pandey Komal attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
149. Ms. Shevkar Chaitrali attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
150. Mr. Ashok Kumar attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
151. Ms. Anuradha Gadeval attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
152. Mr. Sagar Ashok Salave attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
153. Ms. Choppadandi Mounika attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
154. Mr. Polaka Suryanarayana attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
155. Ms. Pulugu Priyanka attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
156. Mr. Khunt Dignesh attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
157. Ms. Raval Nidhi attended one-day workshop on Augmenting Writing Skills for Articulating Research (AWSAR) held at Institute of Seismological Research (ISR), Gandhinagar, Gujarat, on 23rd September 2019.
158. Mr. Devendra Choudhary attended a seminar on "Current and emerging trends in drug development, R & D, quality and regulatory" 10th July 2019, Ahmedabad.
159. Mr. Hanmant Goykar attended seminar on "Current and emerging trends in drug development, R & D, quality and regulatory" 10th July 2019, Ahmedabad.

160. Miss Shreya Thakkar attended the " 9th International Granulation Workshop" held at Lausanne, Switzerland from 26th to 28th June 2019.
161. Dr. Manju Misra, "9th International Granulation Workshop," held at Lausanne, Switzerland from 26th to 28th June 2019.
162. Ms. Harpreet Kaur attended "Vascular Discovery: From Genes to Medicine Scientific Sessions 2019", Formerly ATVB|PVD Scientific Sessions, Boston, USA, May 14–16, 2019
163. Mr. Piyush Kumar Gondaliya attended "World nephrology conference-2019" Tokyo, Japan, 20th -21st May 2019

International Exchange Programs

- ***Ms. Heena Jariyal, Ph.D.*** *scholar, completed the* ***Japan-Asia youth exchange program in science****, funded by the Japan Science and Technology Agency and organized by the University of Miyazaki from September 1 to September 8, 2019.*

- ***Japan-Asia Youth exchange program in science****:-* ***Mr. Namdev More*** *Ph.D. Student of Medical Device, NIPER-A completed the Japan-Asia youth exchange program in science and workshop titled "Nanotechnology and Bioengineering techniques for Biomedical empowerment program in India" funded by the Japan Science and Technology Agency and organized by the University of Miyazaki from December 16 to December 22, 2019.*

Institute Achievement:-

- ***STAR Ratings for the Institutions Innovation Council (IIC) – NIPER - Ahmedabad (Calendar Year 2018-19).*** *The IIC of NIPER Ahmedabad has been established as per the guideline of 'MHRD's Innovation Cell (MIC), Govt. of India, for the Higher Education Institutions (HEIs).*

- ***NIRF Rankin 2020:-*** *NIPER-A secured 2nd Rank in TLR and overall 8th best Pharma Institute in India @ NIRF 2020 Rankings.*

Faculty Achievements:-

- ***FENS, IBRO-PERC Brain Prize Award****:- Dr. Pallab Bhattacharya, Associate Professor Department of Pharmacology and Toxicology NIPER-A has been Awarded FENS, IBRO-PERC Brain Prize/stipend of 1000€ to participate in the upcoming Brain Conference on Brain Stroke: Why, how, and hope at Copenhagen, Denmark. He is the only participant from India and among 15 around the world to be selected for this award. (https://www.fens.org/Meetings/The-Brain-Conferences/Brain-Stroke-Why-how-and-hope/Stipend-Awardees)*
- ***IBRO World Congress Travel Grant award****: - Dr.Pallab Bhattacharya, NIPER-A is one among 5 Indians and 91 international scientists to receive International Brain Research Organization (IBRO) international travel grant for his presentation at the 10th IBRO World Congress taking place in Daegu, South Korea from 21-25 September 2019*
- ***Ramalingaswamy Fellowship****:- Dr. Alok Jain Asst. Professor, NIPER-A for getting awarded Ramalingaswamy Fellowship 2019 Dept. of Biotechnology (DBT) Ministry of Science & Technology Govt. of India.*
- ***Selected Editorial Board for Frontiers in Neurology****: - Dr. Pallab Bhatacharya, Department of Pharmacology and Toxicology. NIPER-A gets the honor to become the Editor and member of the Editorial Board for Frontiers in Neurology (Section: Stroke)*

- ***UK-India Newton-Bhabha Fund RSC Researcher***:- *Dr. Prasoon Kumar Assistant Professor Department of Medical Devices, NIPER-A, got selected for UK-India Newton-Bhabha Fund RSC Researcher Links Workshop on " Addressing the global rise in antimicrobial-resistant infections through lab-on-a-chip technology" to held at Hall No. 21 Victor Menezes Convention Centre (VMCC) | IIT Bombay from 18th Nov 2019 - 21st Nov 2019*
- ***International Sub-Contract Grant:-*** *Dr. Pallab Bhattacharya, Dept. of Pharmacology and Toxicology, NIPER-Ahmedabad has been receiving International Sub-Contract Grant of $ 20000 in collaboration with Miller School of Medicine, the U.S.A. for stroke pre-clinical studies.*
- ***ICMR Extramural Research Grant:-*** *Dr. Pallab Bhattacharya, Assistant Professor NIPER – A for receiving ICMR Extramural Research Grant in Nanomedicine (2019-2022)*

Student Achievement:-

- ***Best Poster Award:***- *Mr. Arnab Chowdhury M.S. Students of Medicinal Chemistry Department Under the Mentorship Dr. Amit Shard won Best Poster Award at The 3rd National Conference in Chemistry (NCONC-2020) organized by IITGN, held on 12-13 February 2020 Gandhinagar, Gujarat. The title of Poster "Design and Synthesis of Quinazolinone based Compounds as Tumor Pyruvate Kinase (PKM2) Activator".*
- ***DST Travel Grant:-*** *Gargi Nikhil Vaidya Ph.D. Scholar, Department of Medicinal Chemistry NIPER-A received the DST Travel Grant (with a full reimbursement of visa and registration fee) for ACS National Meeting (March 22 - 26, 2020 | Philadelphia, USA)*
- ***Khorana Program for Scholars 2020***:- *Ms. Dhwani Rana M.S Student of Pharmaceutics Department at NIPER-Ahmedabad for her selection in Khorana Program -2020 for researching partner universities in the USA. Khorana Program for Scholars-2020: A joint research Program named in honor of Dr. Har Gobind Khorana (Nobel Prize Winner- 1968 for his work at the interface of Chemistry and Biology). The Program provides opportunities to Indian students to research partner universities in the USA for 10-12 weeks.*
- ***Japan-Asia Youth exchange program in science***:- *Mr. Namdev More Ph.D. Student of Medical Device, NIPER-A completed the Japan-Asia youth exchange program in science and workshop titled "Nanotechnology and Bioengineering techniques for Biomedical empowerment program in India" funded by the Japan Science and Technology Agency and organized by the University of Miyazaki from December 16 to December 22, 2019.*
- ***Copenhagen Travel Grant Award***:- *NIPER-A Ph.D. Student Mr. Manish Kumar Sharma, under the mentorship of Dr. Pinaki Sengupta, is selected for Copenhagen Travel Grant Award to attend the 5th biannual "Doping and Human Exercise Performance" symposium to be held on November 11-15, 2019 at the University of Copenhagen. Mr. Manish is among the two incredible scientists selected by the PCC globally to attend the symposium offered by the Department of Nutrition, Exercise & Sport Sciences, University of Copenhagen, Denmark.*
- ***PharmInnova Award:***- *Mr. Kaushik Kuche from Dept. Of Pharmaceutics has received the " PharmInnova Award-2019 for the Best Master Thesis in Pharmaceutics" at Rajnibhai V. Patel - PharmInnova Award.*
- ***1st Prize for Poster Presentation***: - *NIPER-A M.S.Student Kesharwani Radhika under the mentorship of Dr. Pallab Bhattacharya won the 1st prize in a poster presentation at International Conference of Neurological Disorders and Therapeutics (ICNDT) on 26th Oct.2019*
- ***2nd Prize for Poster Presentation***: - *NIPER-A M.S. Student Ruhi Arvind Kale under the mentorship of Dr. Amit Suresh Khairnar won the 2nd prize in a poster presentation at International Conference of Neurological Disorder and Therapeutics (ICNDT) on 26th Oct.2019*
- ***2nd Prize for Poster Presentation***: - *NIPER-A M.S. Student, Birva Vipulkumar Shah under the mentorship of Dr. Pallab Bhattacharya, won the 2nd prize in poster presentation at International Conference of Neurological Disorder and Therapeutics (ICNDT) on 26th Oct.2019*
- ***3rd Prize for Poster Presentation***: - *NIPER-A Ph.D.Student Gopal Agarwal under the mentorship of Dr. Akshay Srivastava won the 3rd prize in poster presentation at International Conference of Neurological Disorder and Therapeutics (ICNDT) on 26th Oct.2019*
- ***Selected in MHRD Innovation Cell***:- *NIPER-A Young Innovators Team Hlumelo (Team Members:- Rohit Shejul, Kiran Katrajkar, Rutuja Satvase, Sushil Edake, Sunil Rongate, and Shubham Kharche) selected by MHRD Institution Innovation Council for their Proof of concept which is entitled Ghee making Machine.*

- ***Selected in MHRD Innovation Cell***:- *NIPER-A Young Innovators Team Scikon (Team Members:- Rohit Parkale, Dhruvisha Pokar, Samdisha Dubey, Snehal Shenoy, and Siddhi Rakshe) selected by MHRD Institution Innovation Council for their Proof of concept which is entitled as "Bioinspired Desalination of Seawater".*
- ***Japan-Asia Youth exchange program in science***:- *Ms.Heena Jariyal, Ph.D. scholar, successfully completed the Japan-Asia youth exchange program in science, funded by the Japan Science and Technology Agency and organized by the University of Miyazaki from September 1 to September 8, 2019.*
- ***1st prize for poster presentation***: - *NIPER-A M.S. Student from Department of Pharmaceutical Analysis Mr. Niraj Hukumsingh Rajput under the mentorship of Dr. Pinaki Sengupta won the 1st prize in a poster presentation at 9th Pharma Vision 2019, a National level seminar held at Charusat University, Changa, Gujarat on 8th September 2019. Title of his presentation was "Development of a liquid chromatography-mass spectrometry method for quantification of cidofovir and its metabolites in rat peripheral blood mononuclear cells"*
- ***Selected in IBRO-APRC***:- *Ms. Siddhi Rakshe M.S Student of Department Of Pharmacology and Toxicology was selected in 4th IBRO/APRC Chandigarh Neuroscience School 2019. at Panjab University, Chandigarh*
- ***1st prize for poster presentation***:- *NIPER-A JRF Student from Department of Natural products Ms. Aishwarya Rajaram Hiray under the mentorship of Dr. Abhijeet Kate won the 1st prize in a poster presentation at National Seminar on "Herbal Drug Technology: Emerging Trends, Challenges, and Scope", held at Nirma University, Ahmedabad, Gujrat, on 17 August 2019. Title of her presentation was "In silico and in vitro metabolite identification of swertiamarin from Enicostemma littorale blume"*
- ***2nd prize for poster presentation***:- *NIPER-A Ph.D. Student from Department of Pharmaceutical Analysis Mr. Manish Kumar Sharma under the mentorship of Dr. Pinaki Sengupta won the 2nd prize in poster presentation at National Seminar on "Challenges & Opportunities in Analytical Characterization of Biosimilars", held at Nirma University, Ahmedabad, Gujarat, on 17 August 2019. Title of his presentation was " Rapid Determination of Flibanserin in Rat Plasma and Brain by a Validated UPLC-MS/MS method"*
- ***Nestle powder challenge award***:- *Ms. Shreya Thakkar, Ph.D. student, Drug discovery lab, NIPER Ahmedabad won Best Nestle powder challenge award. This award brings a cash reward of 3000CHF franc and an opportunity to collaborate with Nestle. Her idea was judged by a panel comprising of 7 members from Nestle team and University of Sheffield.*
- ***Paul Dudley White International Scholar Award***:- *Ms. Deepaneeta Sarmah from Department of Pharmacology and Toxicology receives the Paul Dudley White International Scholar Award. This is a prestigious award by the American Heart Association (AHA), USA for the highest-ranked abstract submitted from India. This award recognizes the highest-ranked AHA abstract from each country around the world.*
- ***Selected as renowned speaker***:- *Ph.D. student of NIPER-A, Piyush Gondaliya is selected as renowned speaker at 15th World Nephrology Conference May 20-21, 2019 Tokyo, Japan. Theme: "Recent advancements of research and treatment in the field of nephrology."*

Sr. No	Project Title	Amount	Duration	Principal Investigator	Funding Body
1	Bioprospecting endo-lichenic fungi from Mangroves in Negombo lagoon in Sri Lanka and Gulf of Khambat, Gulf of Kutch from Gujarat India; An untapped treasure trove for the discovery of special structures and bioactive compounds (Grant No: DST/INT/SL/P-22/2016)	47 lakhs	2017-2020	Prof. Kiran Kalia Sri Lankan Partner: Prof. Priyali Pranagama University of Kelniya, Sri Lanka	DST, Indo Sri Lanka Joint Research Programme
2	Bio-engineered three-dimensional stem cell niche for intervertebral Disc repair and regeneration (Grant No: ECR/2016/002038)	38.1 lakhs	2017-2020	Dr. Akshay Srivastava	DST, SERB
3	Aptamer-targeted dendronized polymeric nanoparticles to deliver Anti-miRNA for treatment of Triple-Negative Breast Cancer (Grant No: ECR/2016/001964)	38.1 lakhs	2018-2021	Dr. Rakesh Tekade	DST, SERB
4	Triple punch approach for triple-negative breast cancer by delivering siRNA and doxorubicin using graphene oxide wrapped polymeric nanoparticles (Grant No: PDF/2016/003329)	25 lakhs	2017-2019	Dr. Rakesh Tekade	DST, SERB
5	Aptamer Targeted Nanohybrid for Chemo-Photothermal Therapy of Leukemia: An In vitro Proof of Concept (Grant No: 5/3/8/33/ITR-F/2018-ITR)	12.7 Lakhs	2019-2022	Dr. Rakesh Tekade	ICMR
6	Near-Infrared (NIR) laser triggered polymeric nanoshell for chemo-photothermal therapy of arthritis (Grant No: 5/2/8/23/ITR-F/2020-ITR)	23 Lakhs	2020-2023	Dr. Rakesh Tekade	ICMR
7	Exploring The Molecular Mechanism Of Omega-3 Fatty Acid Enriched Rasagiline Mesylate Microemulsion In Enhancing Brain Delivery And Its Synergistic Role To Enhance The Antiparkinsons Efficacy (Grant No.: 5/3/8/53/ITR-F/2020)	12.7 Lakhs	2020-2023	Dr. Rakesh Tekade	ICMR
8	Regulatory non-coding RNA mediated mesenchymal stem cell engineering: Safety and efficacy study in a rodent model of ischemic stroke (Grant No: SB/YS/LS-196/2014)	29.30 lakhs	2016-2019	Dr. Pallab Bhattacharya	DST, SERB
9	Stem Cell Therapy to Counteract Endoplasmic Reticulum Stress in Ischemic stroke (Grant No: 5/3/8/16/ITR-F/2019-ITR)	12.7 Lakhs	2019-2022	Dr. Pallab Bhattacharya	ICMR
10	Design and Construction of Fluorine-Containing Scaffolds via C-H Bond Activation (Grant No: DST/INSPIRE/04/2016/000414)	35 lakhs	2017-2021	Dr. Satyasheel Sharma	DST, INSPIRE
11	Exploring the molecular mechanism of butter oil-enriched nanoformulation in enhancing nasal to brain delivery and its potential role in promoting neurogenesis (Grant No:EMR/2016/007966)	34.69 lakhs	2017-2020	Dr. Manju Mishra,	DST SERB
12	Industrial Project from Natreon Inc, the USA Exploring neuroprotective effects of Phyllanthus Emblica in an animal model of ischemic stroke.	$25,800	2018-2020	Dr. Pallab Bhattacharya	Natreon Inc, USA

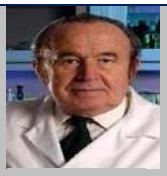
Sr.No	Project Title	Amount	Duration	Principal Investigator	Funding Body
13	Bioengineered Cell Ramalingaswamy Instructive collagen hydrogel patch for intervertebral disc repair and regeneration (BT/HRD/35/02/2006)	83.50 lakhs	2018-2023	Dr. Akshay Srivastava	DBT
14	Light amplifying carbon quantum dot embedded contact lenses for treatment of night blindness (Grant No: BT/PR27025/NNT/28/1535/2017)	47 lakhs	2018-2021	Dr. Govinda Kapusetti	DBT
15	To study the Protective effect of Sanat's Herbal formulation (SHF) on human lung epithelial cells exposed to Fine particulate matter and response to the allergy.	6.62 lakhs	2018-2019	Dr. Amit Khairnar	Sanat Products Ltd, New Delhi
16	Is Enteric Neuronal inflammation a starting point of Parkinson's Disease Pathogenesis (Grant No: BT/HRD/35/02/2006)	113.60 lakhs	2019-2024	Dr. Amit Khairnar	DBT
17	Development of Potential anti-TB Drugs Targeting Energy Inhibition Pathway Utilizing C-H Bond Functionalization as Key Synthetic Tool (Grant No: SB/S2/RJN-135/2017)	109.10 Lakhs	2018-22	Dr. Dinesh Kumar	DST-SERB
18	In-silico design and validation of boronic acid-based molecules for the treatment of colorectal cancer: Computer-aided hit to lead discovery	110,80,000	2019-2024	Dr. Alok Jain	DBT
19	Intra arterial delivery of brain-derived neurotrophic factor BDNF loaded DSSAN for the treatment of ischemic stroke	34 lakhs	2019-2022	Dr. Pallab Bhattacharya	ICMR
20	To test the efficacy of IA versus IV GFP positive MSCs in an animal model of stroke with timebound expression study of SDF-1	$ 20000	2019-2021	Dr. Pallab Bhattacharya	US Sub Contract Grant from Miller School of Medicine, USA
21	To develop a robust synthesis process for PLLA polymer	7 lakhs	2019-2020	Dr. Govinda Kapusetti	Uthesia Medicare Pvt. Ltd (Industry)

International Collaborations

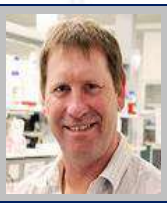
NIPER-Ahmedabad is pleased to announce its initiative to establish an International Research Collaboration with faculties from Harvard Medical School, Boston, USA, Johns Hopkins University School of Medicine, Baltimore, MD, USA, Massachusetts Institute of Technology, USA; University of Washington, Seattle, USA; the University of Newcastle, School of Biomedical Sciences and Pharmacy, Australia; University of Mississippi School of Pharmacy, USA; Wayne State University Use-inspired Biomaterials & Integrated Nano Delivery Systems Laboratory, USA; and National University of Ireland, Galway, Ireland. Under this initiative, research faculties from these foreign Universities/Institutes have agreed to establish future research collaborations and academic partnerships with the faculty members from NIPR-Ahmedabad.

Dr. Pallab Bhattacharya, Associate Professor, Department of Pharmacology and Toxicology has a research collaboration with following faculties from Harvard Medical School, Boston, USA and Massachusetts Institute of Technology, USA

Faculty from Harvard Medical School, Boston, USA	Photograph	Area of Research
Prof. Larry Benowitz F.M. Kirby Neurobiology Center, Boston Children's Hospital, Harvard Medical School, Boston, USA		Stroke Biology
Prof. Nutan Sharma Director, Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, USA		Neuroscience Research
Dr. Khalid Shah Director, Center for Stem Cell Therapeutics and Imaging, Department of Radiology and Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, USA		Stem Cell Biology / Neuroscience Research
Dr. Ali Sultan Chief, Division of Vascular and Endovascular Neurosurgery, Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, USA		Stroke Biology
Dr. Nirav J. Patel Cerebrovascular and Endovascular Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, USA		Stroke Biology
Faculty from Massachusetts Institute of Technology, USA	**Photograph**	**Area of Research**
Prof. Emilio Bizzi McGovern Institute for Brain Research, Massachusetts Institute of Technology, USA		Stroke Biology
Faculty from Miller School of Medicine, USA	**Photograph**	**Area of Research**
Prof. Dileep R Yavagal Dept. of Neurology, Miller School of Medicine, USA		Stroke Biology

Faculty from Miller School of Medicine, USA	Photograph	Area of Research
Nobel Laureate Andrew Scally, Sylvester Cancer Research Centre, Miller School of Medicine, USA		Stroke Biology
Dr. Kunjan R Dave Dept. of Neurology, Miller School of Medicine, USA		Stroke Biology

Dr. Rakesh K. Tekade, Associate Professor, Department of Pharmaceutics has established a research collaboration with the following faculty members from the University of Newcastle, School of Biomedical Sciences and Pharmacy, Australia; the University of Mississippi School of Pharmacy, USA; and the Wayne State University Use-inspired Biomaterials & Integrated Nano Delivery Systems Laboratory, USA.

Faculty from University of Newcastle, School of Biomedical Sciences and Pharmacy, Australia	Photograph	Area of Research
Prof. Philp M. Hansbro Professor, NHMRC Fellow and Brawn Fellow School of Biomedical Sciences and Pharmacy (Immunology and Microbiology) Faculty of Health and Medicine The University of Newcastle, Callaghan, NSW 2308, Australia.		Immunology and Microbiology, bacterial and viral infections and obstructive airway diseases such as asthma
Faculty from De Montfort University, The Gateway, Leicester, UK	**Photograph**	**Area of Research**
Prof. Antony D'Emanuele Professor and Head of School School/department: Leicester School of Pharmacy De Montfort University, The Gateway, Leicester, LE1 9BH UK		Dendrimer-based nanoformulation approaches, Formulation development of site-specific polymeric Drug Delivery systems
Faculty from University of Mississippi School of Pharmacy, USA	**Photograph**	**Area of Research**
Prof. Mahavir B. Chougule Associate Professor of Pharmaceutics, Research Associate Professor in the Research Institute of Pharmaceutical Sciences, Department of Pharmaceutics and Drug Delivery, School of Pharmacy, University of Mississippi, Mississippi, TCRC 204 A, MS, USA		Drug and Gene Co-delivery, Multifunctional Nanoparticle, Cancer Therapy, Inhalation delivery
Faculty from Liverpool John Moores University, Liverpool, UK	**Photograph**	**Area of Research**
Prof. Gillian Hutcheon Faculty in the Department of Pharmacy and Biomolecular Sciences Liverpool John Moores University, Liverpool, UK Rodney House, 70 Mount Pleasant Liverpool L3 5UX, UK		Polymer chemistry and drug delivery biodegradable polymers for the Micro & nanoparticle delivery

Faculty from Wayne State University Use-inspired Biomaterials & Integrated Nano Delivery Systems Laboratory, USA	Photograph	Area of Research
Prof. Abhay Singh Chauhan Director, Use-inspired Biomaterials & Integrated Nano Delivery Systems Laboratory Department of Pharmaceutical Sciences Wayne State University Office: 259 Mack Ave, Room 3601 U-BiND Systems Lab: Room 3330 Detroit, MI 48201 USA		Use-inspired Biomaterials, Polymeric Drug and Gene Delivery, Nanomedicine, and Nanotechnology

Dr. Govinda Kapusetti, Assistant Professor, Department of Medical Devices, NIPER-A has a research collaboration with the following faculty from Johns Hopkins University School of Medicine, Baltimore, MD, USA

Faculty from Johns Hopkins University School of Medicine, Baltimore, MD, USA	Photograph	Area of Research
Dr. Anirudha Singh Assistant Professor, Department of Urology, Brady Urological Institute, The Johns Hopkins University School of Medicine, Baltimore, MD, USA		Smart 3D scaffolds for articular cartilage regeneration

Dr. Akshay Srivastava, Associate Professor, Department of Medical Devices has a research collaboration with faculty from Centre for Research in Medical Device National University of Ireland, Galway

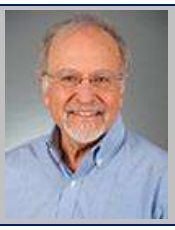
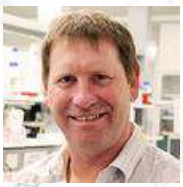
Faculty from National University of Ireland, Galway.	Photograph	Area of Research
Dr. Abhay Pandit Director of a Science Foundation Ireland-funded Centre for Research in Medical Devices (CÚRAM) at the National University of Ireland, Galway.		Medical Devices

Dr. Abhijeet S.Kate, Associate Professor, Department of Natural Products has a research collaboration with the following faculty members from the University of Kelaniya, Sri Lanka and Atlantic Veterinary College, UPEI, Canada

Faculty from National University of Ireland, Galway.	Photograph	Area of Research
Prof. Priyani A. Paranagama Senior Professor of Chemistry (Chair), University of Kelaniya, Sri Lanka		Natural Products
Prof. Russell G. Kerr Professor & Canada Research Chair, Department of Biomedical Sciences, Atlantic Veterinary College, UPEI, Canada		Natural Products

Adjunct Faculty

NIPER-A has engaged following eminent academicians and research scientists as Adjunct Professors, who can give their expert guidance on research and teaching. Adjunct professors agreed to undergo vibrant sessions of scientific discussions as well as engage classes online. They have also expressed their interest in personally visiting NIPER-Ahmedabad at mutually agreed times shortly. NIPER-A expresses profound thanks to all Adjunct Professors and looks forward to their crucial role in the development of NIPER-A and the partner institute.

Name of Adjunct Faculty and affiliation	Photograph
Prof. Larry Benowitz Professor of Surgery and Ophthalmology Institute: Harvard Medical School, USA	
Prof. Dileep R Yavagal Professor of Clinical Neurology and Neurosurgery Institute: Miller School of Medicine, USA	
Prof. Antony D'Emanuele Professor of Pharmaceutical Sciences Institute: De Montfort University, UK	
Prof. Philp M. Hansbro Professor Institute: The University of Newcastle, Australia	
Dr. Mukul Jain Senior Vice President Institute: Zydus Research Centre, India	
Prof. Abhay Pandit Professor of Biomedical Engineering Institute: NUI, Galway, Ireland	

Biotechnology

Genetic profile and biomarker identification of OSCC patients through transcriptome analysis

We are currently working in an extensive area of transcriptome analysis of tobacco-addicted patients of oral squamous cell carcinoma. This study is being carried out on tumor samples taken from the Gujarat population. The idea or importance of this work seems to lie within the fact that Gujarat has been reported to be having the highest number of oral cancer reports, which is increasing year-by-year. Transcriptome analysis is an aspect which comprises of whole genomic data of the affected patients. This data is ultimately being useful to find out the upregulated and downregulated genes and significant biomarkers in the samples, and their respective validation is under process. The results obtained can pave the way for identifying better targeting approaches and the idea of personalized medicine, which is presently in the boom.

Dissecting the molecular mechanisms by which healthy cells become cancerous and metastasize

We are working in the area of signal transduction in carcinogenesis. Our laboratory investigates the intracellular pathways that contribute to malignant transformation and metastatic dissemination of cancer cells in various models, including oral, breast, prostate, and lung cancer. Through a transcriptome analysis of oral cancer patients, we have identified several genes and transcription factors that are significantly upregulated in oral cancer. Of the many altered protein, we have chosen two upregulated target candidates for further evaluation: Interleukin-8 (IL-8) and Lama3. One of our primary goals is to elucidate the role of IL-8 and Lama3 as a modulator of proliferation, survival, apoptosis, differentiation, transformation, and set mechanistic bases for targeting this protein for cancer treatment. Lama 3 belongs to the laminin family of secreted molecules that are known to play an essential role not only in the formation and function of the basement membrane but also in regulating cell migration and signal transduction. Serum IL-8 has been shown to acts as a biomarker for oral cancer. However, understanding of IL-8 regulation in oral cancer remains in infancy. Using varied in silico web-based tools, we have identified miRNAs that regulate singly or in conjunction with the aberrant expression of IL-8. Targeting these miRNAs may offer a potential approach to combat IL-8 aberrant expression associated with oral carcinogenesis.

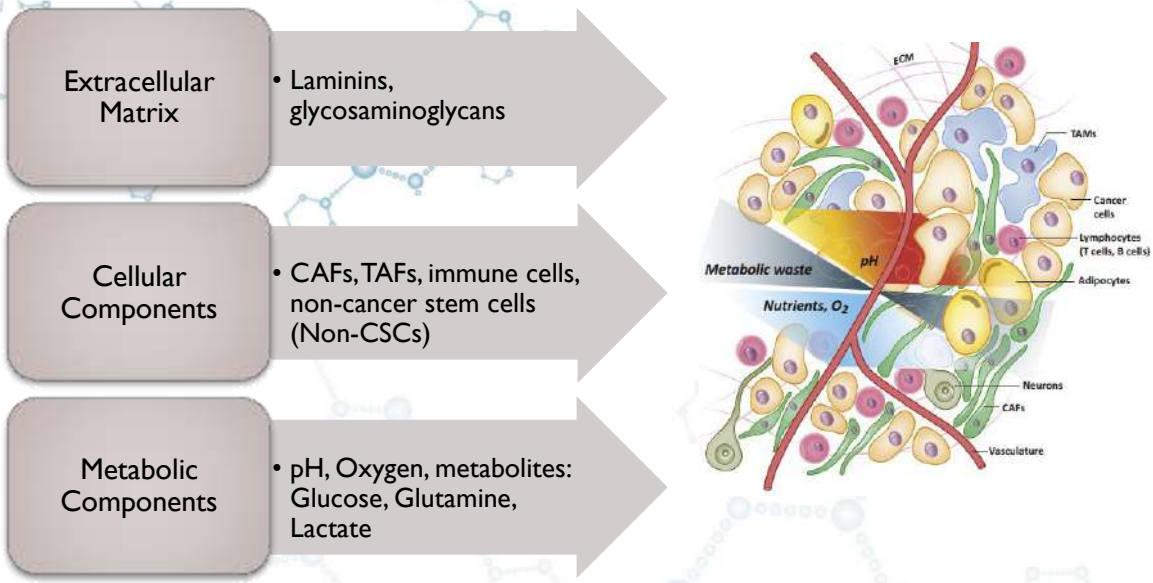
Epigenetic modulation in diabetic nephropathy through miRNA

Besides, our big challenge is to elucidate such complex signaling mechanisms for other upregulated candidate genes identified from the oral cancer transcriptome analysis, with the ultimate goal of finding novel targeting molecules for cancer therapeutics, using cellular, genetic and pharmacological approaches. We are also in the process of evaluating the various natural and/or chemical compounds synthesized in the Medicinal Chemistry Department of NIPER-A if they (a) possess anticancer activity, and (b) have inhibitory activity towards IL-8 and/or Lama3.

We are currently working on emerging epigenetic mechanisms underlying Diabetic nephropathy, which involves microvascular complications associated with both type 1 & type 2 Diabetes Mellitus. It may be noted that Diabetes Mellitus is a leading cause of renal failure. Epigenetics plays a vital role in Diabetic Nephropathy comprises a study of heritable changes in gene expression without alterations in the underlying DNA sequences. Key epigenetic regulators are miRNAs, which are a family of small non-coding RNAs. In the case of Diabetes Mellitus, due to the engagement of cytokines & growth factors with their receptors trigger signal transduction cascades, these affect epigenetic states such as DNA methylation & chromatin histone modification to augment the expression of pro-fibrotic & inflammatory genes which further leads to Diabetic Nephropathy. Hence, miRNAs could serve as the new therapeutic targets for Diabetic Nephropathy.

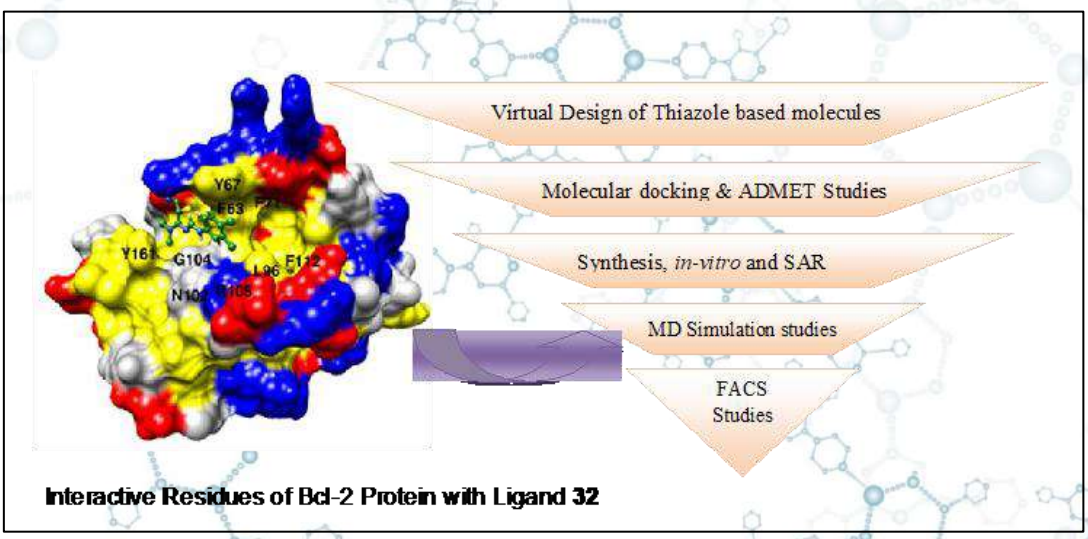
Modulating breast cancer stem cells using exogenous hyaluronic acid induction

The reoccurrence of breast cancer is a significant concern due to the presence of cancer stem cells (CSCs). Considering the critical role of hyaluronic acid (HA) in modulating the inflammation and cellular migration in cancer, the response of high molecular weight (HMW) and low molecular weight (LMW) HA towards various subtypes of breast cancer and breast cancer stem cells remain elusive. This study aims to determine the effect of exogenous HMW-HA and LMW-HA on the stemness of CSCs and epithelial-to-mesenchymal transition, which may help in designing HA-based therapeutic strategies. Moreover, glutamine metabolism has emerged as a therapeutic cancer target in the past few years. Dependency on extracellular glutamine varies among different breast cancer subtypes due to lineage-specific gene expression. However, the effect of the ECM component, e.g., hyaluronic acid on glutamine flux and its metabolism in CSCs, remains elusive in breast cancer.



Combining experimental and computational approaches to design and validation of anticancer molecules

Effective abolition of cancer warrants treatment modalities directed towards specific pathways dysregulated in tumor proliferation and survival. The anti-apoptotic Bcl-2 proteins are significantly altered in several tumor types, positioning them as striking targets for therapeutic intervention. In this work, we designed, synthesized, computationally validated, and biologically evaluated structurally optimized thiazole based small molecules. The virtually designed molecules were subjected to rigorous docking and ADMET studies. It led to the qualification of 23 skeletally diverse thiazole based molecules, which were synthesized and in vitro evaluated against normal and cancers cell lines. The molecules simultaneously inhibited Bcl-2 Jurkat cells in vitro without causing detectable toxicity to normal cells. Among them, five molecules showed potent activities against Bcl-2 Jurkat and A-431cell lines at µM concentrations. A molecule that was showing almost equipotent in both the cell line was subjected to molecular dynamics (MD) simulation with death-defying anti-apoptotic Bcl-2 proteins. It was shown that it interacted with protein majorly via hydrophobic interactions, and few electrostatic interactions were also observed. During the MD simulation, conformational changes in Bcl-2 protein were observed that facilitates the movement of a ligand inside the cavity of protein. Finally, flow cytometry analysis of this compound proved that cells followed the apoptotic pathway leading to cell death. The chemical intuition was fully validated by computation and biological results, which confirms that molecules have the potential to be developed downstream into potent and safer anticancer agents. (Eur. J. Pharm. Sci., 2019;doi:10.1016/j.ejps.2019.04.005)

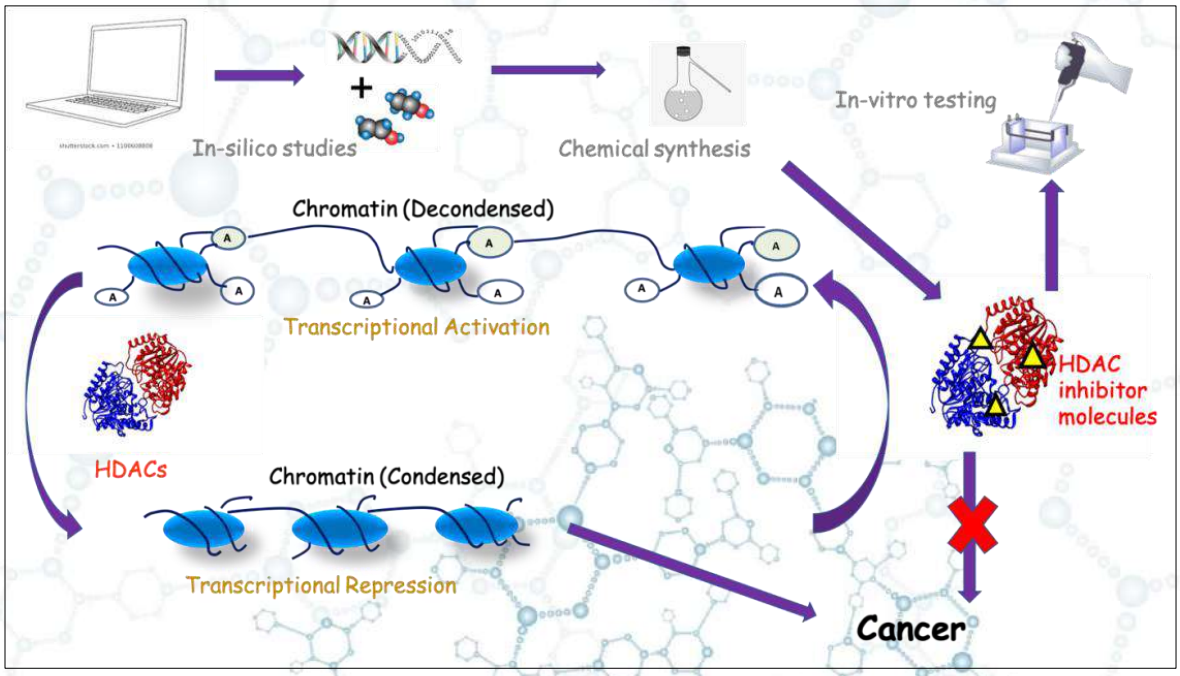


Interactive Residues of Bcl-2 Protein with Ligand 32

Structural and Functional Evaluation of Indole Based Anti-cancer Compounds targeting Histone deacetylases (HDACs)

The HAT (Histone acetylTransferases) and HDACs (Histone deacetylases) are two distinct families of enzymes. They are responsible for the reversible change of the chemical state of the ε-amino group of the lysine residues residing at the N-termini of the core histone proteins in the nucleus of the cell. The catalytic activity of the HDAC enzymes is directly related to the pathogenesis of cancer as well as several other diseases. In cancer states, hyperacetylation ultimately causes cell cycle arrest and apoptosis. Therefore, HDAC inhibition leads to a hyperacetylated state of the histones, initiating the transcriptional activation of suppressed genes. Currently, certain existing HDAC inhibitors such as Vorinostat, Trichostatin A, Valproic acid etc. have been shown to have the potential to treat several types of cancers, but not with effective efficacy and selectivity. Thus, available HDAC inhibitors are not very useful as anticancer agents.

In this study, we have systematically analysed the three-dimension structures of all the isoforms of HDACs by employing the various tools of structural bioinformatics and molecular modelling including structural based sequence alignments, phylogenetic tree construction and homology modelling. A careful structural analysis identified the set of critical residues at the 11Å deep active site and 14 Å wide cavity of the HDACs, especially specific to HDAC8, which is overexpressed in case of breast cancer. By targeting these important residues, HDAC inhibitors are designed which are expected to show more selectivity and better efficacy to HDAC8. This is further confirmed by docking studies, and based on this, further optimization of the designed compounds is done, via substitution at the specific sites of the compounds and further docking them at the active site. Thus, molecules are selected, which have proper binding orientation and docking score. These results will be further confirmed by experimental techniques.



Molecular characterization of hippocampal sAHP modulation in temporal lobe epilepsy

Temporal lobe epilepsy (TLE) is considered to be one of the most prevalent neurological disorders without having effective treatment strategies. Further, one-third of patients develop treatment-resistant and intractable TLE, which results in the appearance of future recurrent seizures. Thus, a detailed understanding of the key molecular and cellular mechanisms of the acquired TLE is of critical importance for developing novel antiepileptic therapies. We are focusing our work on a region of the brain called Hippocampus, which shows drastic alterations in TLE, resulting in synchronous firing patterns and generation of recurrent seizures. A major source of this recurrent seizure mediated excitatory and inhibitory (E/I) imbalance in TLE proves to arise from downregulation of intrinsic inhibitory mechanism of slow afterhyperpolarization (sAHP), that regulates the firing pattern of hippocampal neurons. Results from our work established that the sAHP is generated by a coordinated interplay between plasma membrane (PM) and endoplasmic reticulum (ER) localized calcium-permeable ion channels and calcium-activated potassium channels that work as a multiprotein assembly. Here we are addressing the molecular mechanisms that modulate the structural organization and functional properties of the sAHP generating multiprotein complex in TLE using established animal models of acquired TLE. The results of this work will plausibly guide the future development of novel drug discovery for the treatment of acquired epilepsy.

Role of ER-PM connecting junctional proteins in the potentiation of sAHP in aging

Normal non-pathological aging is characterized by the decrease or impairment in the cognitive tasks. This is attributed to a change in neuronal excitability patterns, particularly, in the hippocampal brain region that is known to be involved in learning and cognition. The excitability of hippocampal neurons is fine-tuned by an intrinsic inhibitory mechanism termed slow afterhyperpolarization (sAHP). Importantly, a potentiation of the sAHP and reduction of hippocampal neuronal firing is reported in aged animals leading to cognitive abnormalities. Recent results from our work highlighted the contribution of endoplasmic reticular (ER) and plasma membrane (PM) connecting junctional proteins called junctophilins (JPH) in assembling a multiprotein complex of Cav1 voltage-gated calcium channel, KCa3.1 potassium channel, and RyR2 store calcium release channels at specialized ER-PM junctions that help to generate the hippocampal sAHP. shRNA knockdown of JPH-3 and JPH-4 disassembles the multiprotein assembly and sAHP induction. Although an increase of Cav1 and RyR2 channel functions have been found in aged neurons, very little is known about the expression profile of these ER-PM junctional proteins and the kinetics of its interaction with the multiprotein complex during aging. With this work, we vision to develop small peptide fragments in the form of tat-peptide conjugates to be delivered into the bloodstream that can be used in the functional improvement of neuronal firing patterns and cognitive performances in aging.

Differential regulation of L-type calcium channels in ischemic brain injury

Reduction of blood flow to the brain regions induces brain or cerebral ischemia that results in brain damage or death due to alterations of various neuronal structures. Among these, the functions of voltage-gated L-type calcium-permeable ion channels (Cav) are highly compromised in ischemic insult. This has consequences in normal brain functions as L-type Cav channels play an essential role in intracellular calcium signaling, neuronal excitability, and synaptic plasticity. Further, the vulnerability of brain ischemia varies among different neuronal populations. The CA1 region of the Hippocampus has shown a higher degree of sensitivity towards brain ischemia than that of CA3 brain regions. Intriguingly, there is a differential effect of brain ischemia on L-type Cav channel properties. L-type channel currents decreased to a greater extent in the CA1 region of the Hippocampus than that of the CA3 region, where insignificant reduction of L-type currents observed after ischemic treatment. With this project, we are deciphering the molecular details of ischemic modulation of the L-type Cav channels and the mechanisms that govern differential regulation of L-type calcium channels in the hippocampal brain region during ischemic brain injury. Outcomes of this study will aid in providing crucial information about the mechanisms that operate in the brain ischemia, one of the most commonly occurring neuropathological disease conditions.

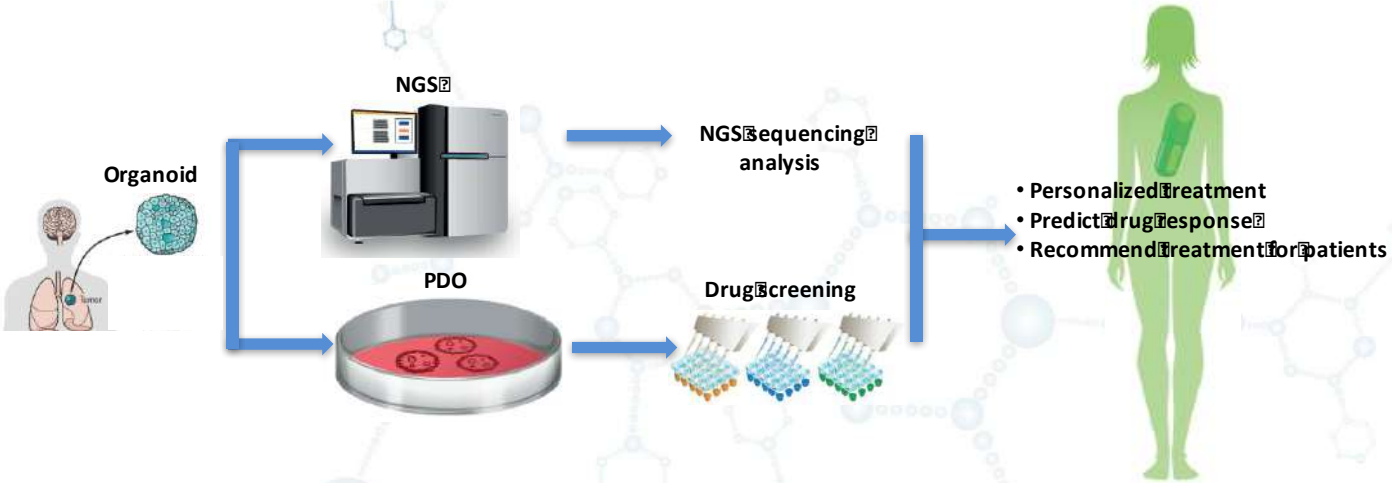
Development of targeted therapeutics for acute myeloid leukemias (AMLs)

India has the third-highest number of blood cancer patients in the world, and blood cancer contributes to 7% of all cancer cases in India. Acute myeloid leukemia (AML) is a cancer of the myeloid lineage of blood cells, is the most common acute leukemia affecting adults, and its incidence increases with age. As acute leukemia, AML progresses rapidly and is typically fatal within weeks or months if left untreated. However, AML is a potentially curable disease, although only a minority of patients are cured with current therapy. Many cases of AML are associated with non-random chromosomal translocations that often result in gene rearrangements. The four most prevalent ones being t(15;17), t(8;21), inv(16), and 11q24 translocations, which result in the expression of the oncofusion proteins PML-RARA, AML1-ETO, CBFB-MYH11 and MLL-fusions, respectively. Our main research goal is to elucidate the molecular function of these oncofusion proteins in acute myeloid leukemia and translate the fundamental insights gained through our research into diagnostics and drug discovery process. To this end, we have been using next-generation sequencing (NGS) assays (ChIP-seq, RNA-seq, ATAC-seq, 4C, Hi-C, Hi-ChIP), molecular and proteomics tools, CRISPR-Cas9 genome editing technologies and bioinformatics pipelines, to identify the transcriptional and epigenetic networks that are dysregulated in acute myeloid leukemias (AMLs). These functional and bioinformatics analyses are leading us towards the development of novel therapeutics for leukemia.

Establishment of Patient-derived organoids (PDO) from head and neck cancer patient's samples

Precision oncology aims to identify effective drugs for every individual patient, and recent research findings suggest that patient-derived tumor organoids hold great promise for personalized cancer medicine. Emerging evidence indicates that patient-derived organoids (PDOs) can predict drug responses in a customized treatment setting. Indeed, recent studies show that tumor-derived organoids faithfully predict responses of cancer patients. Response prediction can help oncologists before treatment to determine the treatment for individual patients. PDOs are three-dimensional structures derived from primary cancer tissues that are capable of self-renewal, self-organization, and expansion while maintaining their genetic and phenotypic stability and accurately recapitulate tissue architecture and function.

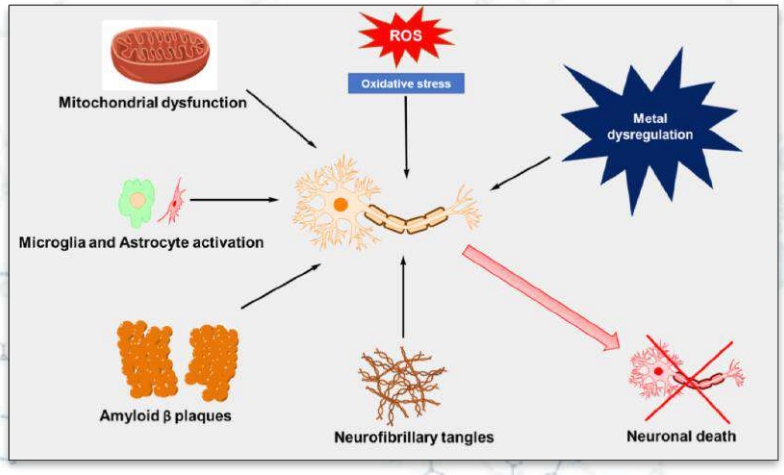
These features make patient-derived organoids (PDOs) exhibit organ functionality recapitulating in vivo tumorigenesis of the parental tumor, and make PDO superior preclinical model for drug development/responses. So far, the development of effective treatments for head and neck cancer (HNC) cancer has been hindered because of reproducible human models in whom to assess the efficacy of candidate therapeutic agents. Although cell lines are available they do not recapitulate in vivo cancer. We aim to generate PDOs from tumors derived from the head and neck cancer patients and perform high-throughput NGS screening and drug screening, to identify effective cancer therapies for individual patients. Furthermore, we are also set to create a database that relates drug sensitivities to tumor genetics/transcriptome/epigenome to nominate potential therapeutic strategies even when only NGS data are available. Altogether, our PDX platform will offer a unique opportunity to stratify and identify effective cancer therapies for individual patients.



Medicinal Chemistry:

Multi target-directed ligands for Alzheimer's proteopathy:

Alzheimer's disease (AD) is one of the most prevalent form of neurodegeneration that is associated with severe cognitive impairment and memory loss primarily among the geriatric population. Confirmation of the AD diagnosis is contingent upon, in the brain post mortem, which identifies misfolded protein aggregates, including the neurofibrillary tangles composed of hyperphosphorylated tau protein and senile plaques composed of Aβ peptides. Aβ1-42 is the primary constituent of the senile plaques. Complex pathophysiology of AD involves mitochondrial dysfunction, neuroinflammation, tau protein phosphorylation, ROS and metal dysregulation which eventually leads to neuronal death. Therefore, a therapeutic molecule which can target multiple pathways is an attractive approach to tackle such complex disease. Therefore, our objective is to design and develop multi-target directed ligands (MTDL) towards the treatment of AD.



In this regard, we are aimed to develop lead molecule, including small molecules as well as peptoids and peptidomimetics, which may act through (1) metal chelation (2) alpha-helix/native conformation stabilization (3) beta-sheet destabilization with superior enzymatic stability.

Ultrashort-peptides and peptidomimetics as smart-bioinspired material:

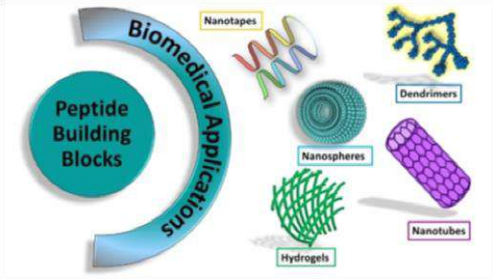
Ultrashort and short peptides under various properties are gaining significance as viable candidates for molecular self-assembly, which is a natural process inspired approach for developing the supra molecular structures and can be used to design the novel strategies in the field of biomaterials.

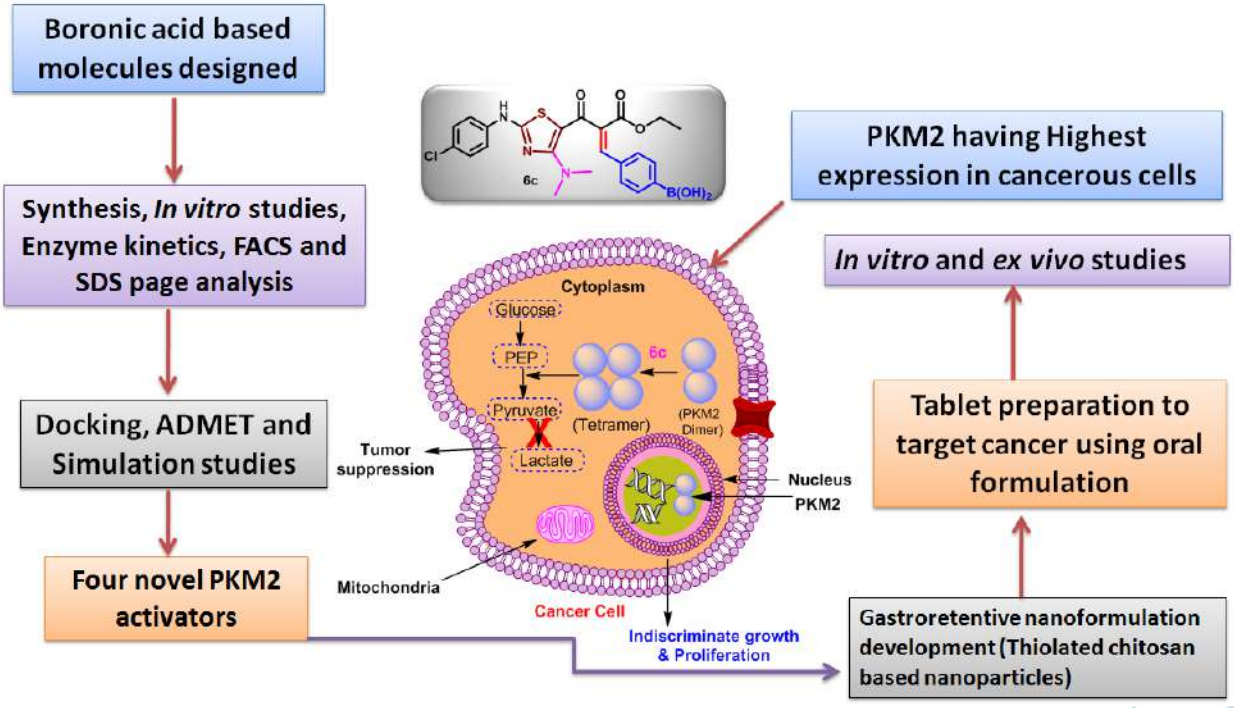
Self- assembly of biomolecules like proteins and nucleic acids are observed in living organisms, various biological process-based examples like Amyloid Beta-plaque formation and complementary binding of the nucleotide bases of nucleic acids. Among all biomolecules peptide-based self-assembly has the advantage of the availability of the source; that it can be easily synthesized or obtained from natural degradation process and can be engineered for modulating their action, making these an area of immense interest for research. Multiple modification options provide a wide area for the engineering of amino acid sequences. Understanding of the amino acid residues with their existing property and modified properties are very helpful for further improvements.

Our objective is to incorporate structural features in these ultra-short peptides through a chemical modification to enable it as a robust material, which can be used in the field of the medical device. Modified peptides and peptide-mimetics can be used for target-specific delivery, smart gel and as diagnostic material.

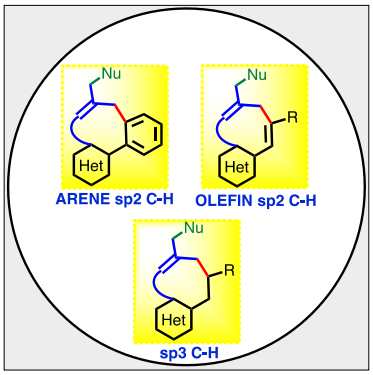
Reversible anticancer covalent inhibitors:

Proliferating cells, especially tumour cells, express a special isoenzyme of pyruvate kinase, termed PKM2, which can occur in a tetrameric form with a high affinity to its substrate, phosphoenolpyruvate (PEP), and in a dimeric form with a low PEP affinity. In tumor cells, the dimeric form is usually predominant and is therefore termed Tumour PKM2. Tumor M2-PK can be elevated in many tumor types (oral, colorectal, breast, ovarian), rather than being an organ-specific tumor marker. Previous attempts to target this enzyme using various agents like bissulfonamides, piperazine derivatives are yet to ascend into the clinic. Serine, DASA-58 and ML-265 have been established as activators of PKM2, which can drag the protein towards the normal tetrameric state for thwarting the progression of cancer, but clinical success is awaited. In this category, although boronic acid derivatives have esteemed biological profile but they have never been explored as activators of PKM2 towards the anticancer activity. Here we intend to focus on the design and synthesis of boronic acid-based molecules with high affinity towards PKM2 enzyme and dragging them towards tetramer formation. We presume that the boronic acid moiety established for the superior biological profile will be engaged in dynamic covalent bond formation leading to activation of PKM2 thwarting cancerous cells towards death. This will smartly orchestrate the normal glycolytic pathway and will certainly bypass functional consequences associated with kinase inhibitors like leukopenia, hepatic disorders, hypertension, thrombocytopenia and several others. The rationally designed molecules will incorporate the fragments from well-marketed drugs using a fragment-based drug discovery approach that will eventually avoid all the aforementioned side effects and will have adequate drug ability.

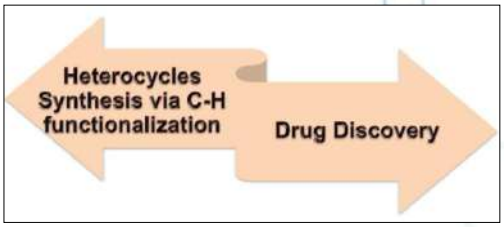




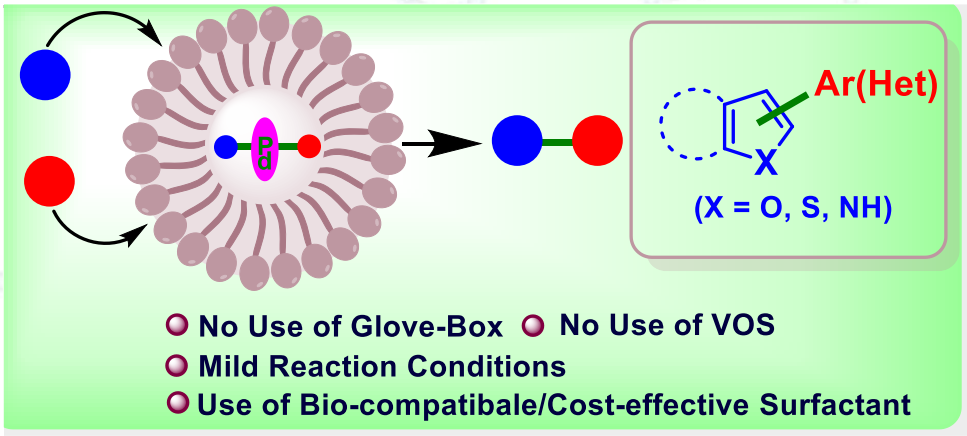
Construction of drug candidate(s) through C–H bond activation



The direct transformation of C–H bonds provides a shorter approach towards organic synthesis, thus rendering straightforward and atom-economical synthetic routes for the drug-like molecules. Even more appealing is that this new approach enables previously unachievable synthetic disconnections. The employment of C–H bond activation protocol does not simply represent a gradual synthetic advance; it has implications beyond organic chemistry and through the compounds made using this methodology it reaches other fields of science such as materials science, biology, physics, and energy research. Owing to the existence of C–H bonds in all kinds of organic molecules, the ability to transform selectively, efficiently and in a predictable manner a specific C–H bond opens the door for the almost unlimited exploitation of this strategy for the late-stage modification of various complex molecules, enabling a rapid diversification of chemical entities into a panel of closely related analogs. In this context, we are focusing on the designing, synthesis, and functionalization of novel carbo/heterocyclic scaffolds by using C-H bond activation strategy, particularly toward the synthesis of NCEs as therapeutic candidates for cancer and neurological disorders.



Sustainable synthesis and functionalization of carbo/heterocycles employing water as reaction medium



The development of green approaches (sustainable development) is an ongoing demand and a subject of current interest due to the adverse effect of the manufacturing processes of pharmaceuticals and fine chemicals on the environment. The major drive towards this initiative is the replacement of volatile organic solvents (VOSs) by green reaction media, as VOSs are the major contributors to environmental pollution due to their abundant use (more than 85% of the total mass utilization of a chemical process) and incomplete recovery efficiency (50–80%). In this context, water is the most preferred solvent, and the use of water as a non-classical medium for organic reactions has received increasing popularity with several advantages such as (i) non-toxic, non-inflammable, and cheap; (ii) it eliminates the additional efforts required to make the substrates/reagents dry before use and thus reduces/eliminates the consumption of drying agents, energy and time; (iii) the unique physical and chemical properties of water often increase the reactivity or selectivity unattainable in organic solvents; and (iv) the product may be easily isolated by filtration in many cases. In this context, we are working towards the development of novel "in-water" synthetic methodologies for the construction and functionalization of bioactive molecules and its further tailoring towards the drug candidacy.

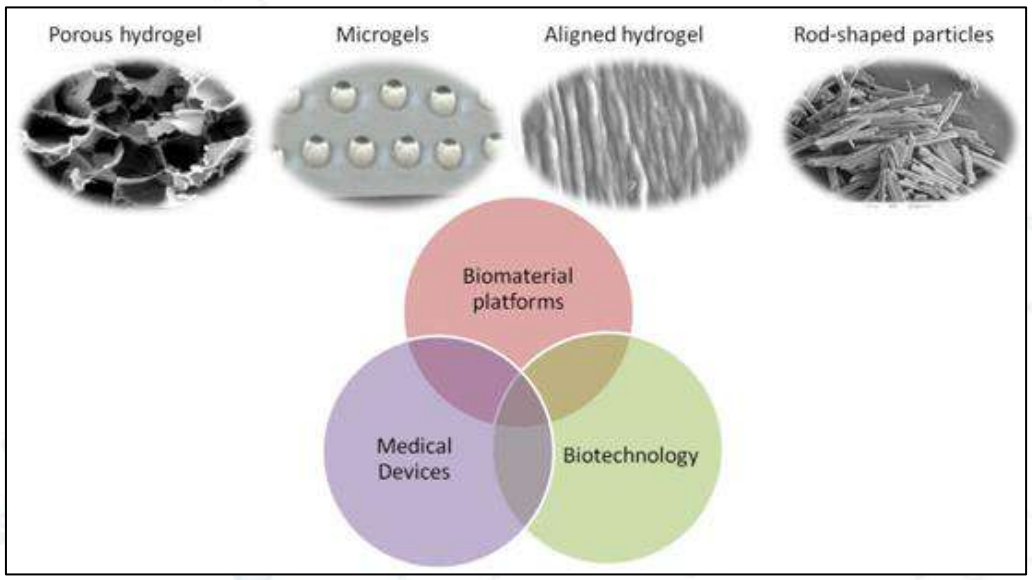
Green chemical process toward the synthesis of pharmaceuticals (drugs)

The pharmaceutical industry is very receptive to the "greener" alternatives process (greener raw materials, catalysis, less use of toxic organic solvents, less waste, protection of workers, and minimization of environmental pollution) in the context of production of APIs with a sense of responsibility towards modern society. Keeping this philosophy intact, we are working towards the synthesis of drugs or drug intermediates employing the fundamental principles of Green Chemistry, to suit the industrial demand and to bridge the gap between academics and industries.

Medical Devices:-

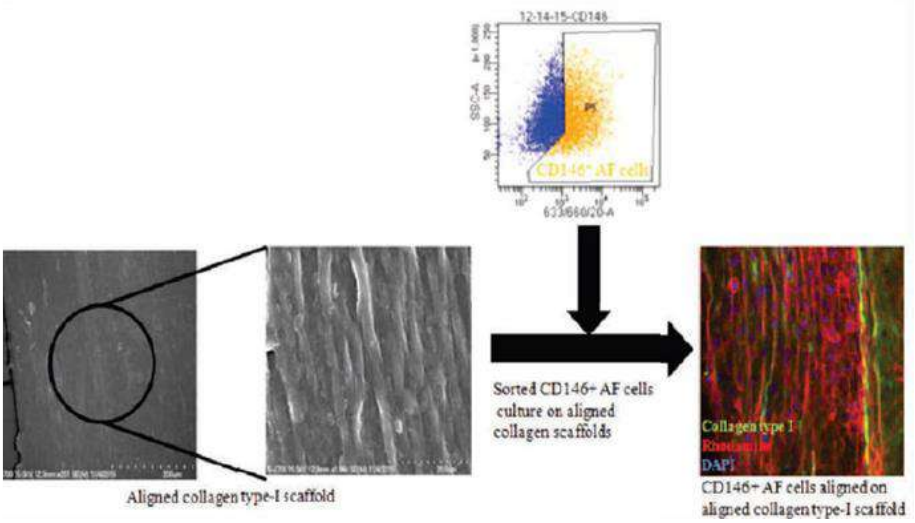
Biomaterial Platforms: Applications in developing medical devices and biotechnology products

New concepts in material fabrication methods have been utilized in developing advanced forms of hydrogel and particles for specific medical and biotechnological applications. The research work is focusing on designing new types of materials using physical concepts and chemical engineering tools. We develop materials as a chromatography matrix for the separation of a large particle such as mammalian cells, as a three-dimensional matrix for mammalian cell bioreactor and as particles in various forms for the delivery of biomolecules. The advanced forms of materials have been fabricated with enhanced biological properties for developing medical devices e.g. lab-on-a-chip, tissue repair patch and cell delivery vehicles. The appropriate type of biomaterial can be fabricated based on the desired application. We develop materials from natural (collagen, hyaluronic acid, alginate and other GAGs) and synthetic (poly (N-isopropyl acrylamide), poly(acrylamide), polycaprolactone, etc.) polymers.

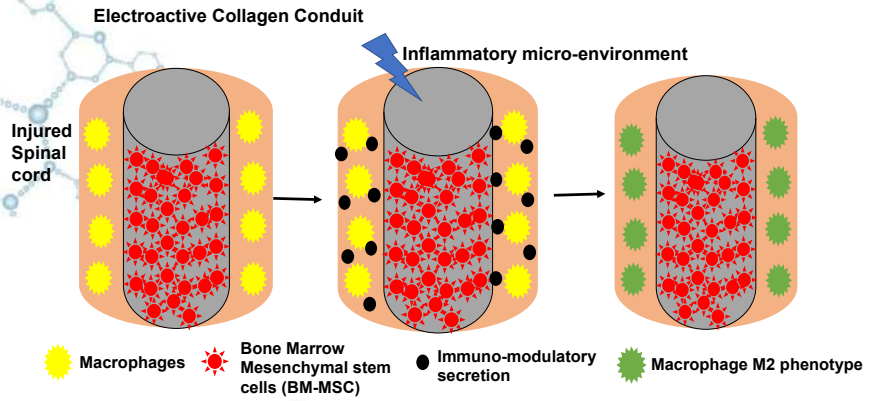


Bioengineered three-dimensional aligned scaffold for intervertebral disc repair

Recent advances in cellular and molecular biology have provided an exciting approach to regenerate intervertebral disc (IVD) that focuses on the delivery of viable and therapeutically important cells to the degenerating disc. AF cell population has shown progenitor cell-like functions, which can differentiate into osteogenic and adipogenic cell lineage. However, these stem cells reside in the highly specialized microenvironment in healthy IVD and tend to lose their phenotype in successive sub-culturing in vitro. The aligned collagen-based biomaterial scaffold would mimic the IVD microenvironment by providing an artificial functional niche for maintaining progenitor cell function. Hence, my hypothesis is, a population of proliferative annulus fibrosis cells present in a highly controlled IVD microenvironment, will help in the regeneration of herniated AF region of IVD using functional biomaterial niche.



Polymeric conduit for spinal cord regeneration



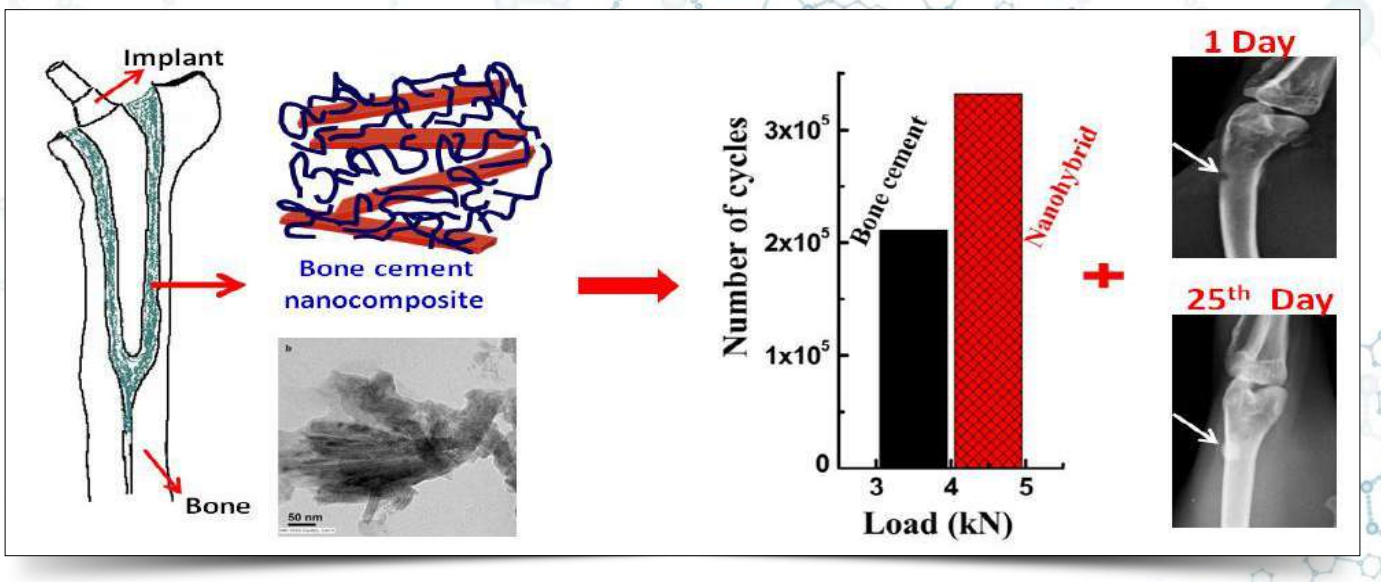
Due to irreversibly neuronal loss and glial scar deposition, spinal cord injury causes a permanent neurological dysfunction. The developed conduit allows a faster axonal regeneration rate. The porous network of the nerve conduit will enable the transfer of nutrients and oxygen through the nerve conduit. Slow degrading polymeric conduit will help in nerve regeneration at the site of the injury for prolonged period. The conduit also allows the incorporation of mesenchymal stem cells, which would help in regeneration of injured spinal cord. The MSC loaded scaffolds provide axonal regeneration in the injured spinal cord and improve locomotor movements and function associated with the spinal cord. These materials can also be incorporated with nerve growth factor for the sustained release of nerve growth factor will also provide nerve growth factor supply for the over the time period. Overall, the developed nerve conduits will fulfill the ideal characteristic of nerve guidance conduit, and the porous network of the nerve guidance conduits will add an advantage for faster neuron regeneration.

Smart 3D smart scaffolds for musculoskeletal tissue regeneration and repair

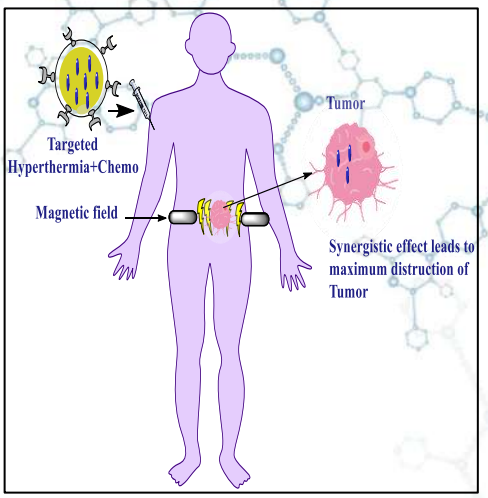
Piezoelectric materials are known as smart materials owing to the transduction of applied mechanical pressure into electrical signals and vice-versa. The musculoskeletal regeneration and repair is a major challenge till date due to their complex structure and function. The smart piezoelectric smart scaffolds can able to regenerate tissues by utilizing its intrinsic property without addition of stimulating factors. The smart scaffold utilizes functional loads as stimulation and generates electric stimuli. The electric stimulus controls the calmodulin pathway way by rapid influx of Ca+2, thereby rapid regeneration of tissues.

Development of osteoconductive and high strength bone cements for joint arthoplasties

Since 1950's the PMMA based bone cement widely used in joint arthoplasties. It acts as grouting material to provide stability of joint arthoplasty by making mechanical bonding between bone and metallic implant. However, the life of cemented joints are around 15-18 years later needs revision of the surgery due to lack of osseointegration and poor mechanical properties of bone cement. We developed a bone cement of high strength and osteoconductive by nanotechnology intervention. The cement can significantly improves the life up to 30 years. The nanoparticles like layered double hydroxides, carbon nanomaterials and barium titante are utilizing for the development.



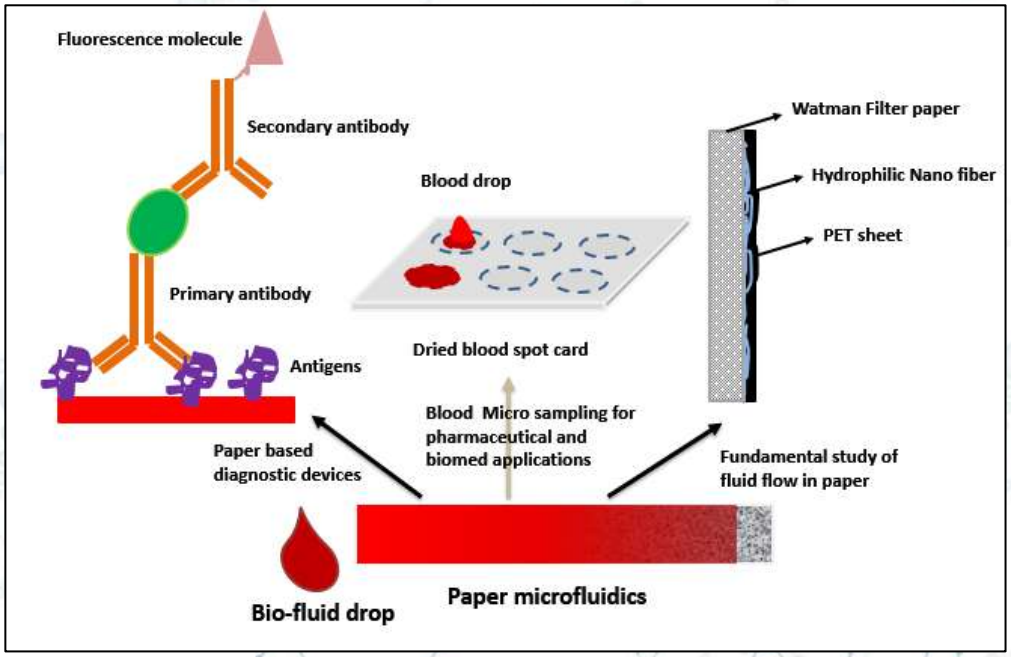
Advanced strategies for cancer theranostics



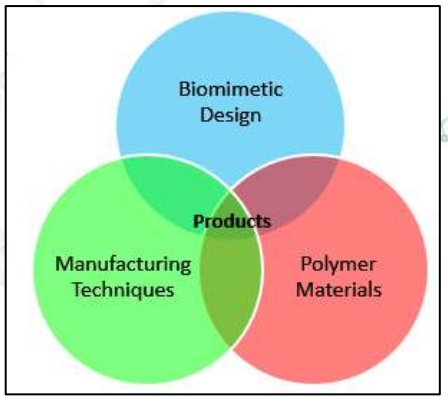
Cancer is an abnormal growth of cells in any tissue or organ of the body and these cells have ability to spread and grow in other parts of the body. Various conventional approaches are available to treat the cancer but they possess lack of absolute success and presence of various side effects. Studies carried out to achieve absolute cure by combination of alternative engineering therapies. The magnetic hyperthermia with combination of photodynamic therapy and chemo has been exploring for cancer therapy and diagnoses. In house synthesized SPIONS are conjugated with quantum dost and for diagnosis. The same complex is loaded with anticancer drugs and PDT elements for chemo and photodynamic therapy, respectively. We observed synergistic effect in combination therapy against single approach.

Paper microfluidics for diagnostic applications

The quest for affordable diagnostics has been major thrust in the bioengineering and clinical domain. The advent of domain of microfluidics have shown a great promise in developing highly sensitive, accurate and minimally invasive diagnostic solutions. However, the major road block is the design and manufacturing of these microfluidics based biosensors in an affordable manner. Therefore, we propose a paper microfluidics based diagnostic solutions that are affordable, accurate and highly sensitive. We work on the fundamental and applied aspect of driving bio-fluid through a porous materials, immobilization of bio-elements through surface modifications and detecting the required analytes



Micro/nanodevices for life-sciences and biomedical applications



Developing a tissue models have been seen as an alternative to animal trials for drug/medical device development. These tissue models can also serve as an alternative to understand the biology of a given tissue. The complex tissue architecture development is limited by scaffolding techniques that can facilitate better tissue engineering. We propose the combination of different micro/nanofabrication technology to design and develop biomimetic, multi-scale, multi-material, 3D tissue specific scaffolds devices structures that can accelerate the developments in tissue engineering and fundamental understanding of tissue biology. Further, we propose to expedite these devices for applications like separation devices; extra-corporeal membrane oxygenators and kidney dialyzers, drug delivery devices; microfluidics device for wound healing, cold storage device; micro-cooling device and others

Development of bioengineered 3D disease models with a focus on cancer

One of the first steps in anticancer drug/anti-metastatic agent development is to screen potent biomolecules on two- dimensional (2-D) tissue culture substrates followed by in vivo screening (Industrial gold standards). However, due to the associated drawbacks, there is a shift towards in vitro tumor models that can act as a bridging gap between the conventional 2-D culture and in vivo tumors. Using tissue-engineering platform, we propose to develop patient-derived tumoroids on three-dimensional (3-D) scaffolds for studying tumor pathophysiology as well as for screening anticancer drugs towards personalized therapy. In this regard, we aim to explore 3-D bioprinting, which will allow capturing the tumor heterogeneity and complexity as in vivo by exerting precise control over cell organization and biomaterial/biomolecule placement. Additionally, the drug screening/testing data thus generated can further be used to predict the response of patients towards small molecule treatment through machine learning tools.

Fabrication of in vitro biophysical microenvironment to understand disease biology

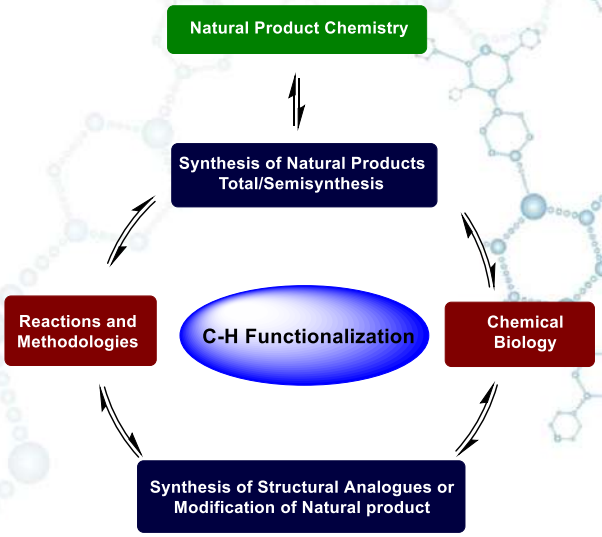
Breast cancer is the leading cause of cancer related deaths in women wherein distant metastasis by itself accounts for roughly 90% deaths, thereby demanding newer therapeutics that target breast cancer metastasis. During metastasis, a cancer cell encounters complex tumor environment comprising multitude of physico-chemical cues. Therefore, through precise control over the extracellular matrix using a 3-D in vitro model, we are investigating the role of biophysical factors in breast cancer metastasis. We also propose to investigate the role of varying biophysical profiles in epigenetic reprogramming of breast cancer cells. The establishment of these models will help derive correlation between breast cancer aggression and underlying biophysical cues and could be used as a model for screening modifiers of the biophysical tumor microenvironment as well as epigenetic drugs. We further propose to develop a microfluidic platform that would aid in excellent optical properties for time-lapse microscopy for visualizing various aspects of cancer cell migration in appropriate biophysical microenvironments. The model could also be extended towards high-throughput drug screening platforms.

Non-invasive screening platforms for early detection of cancer

Despite significant advances in diagnostic tools for breast cancer (such as physical examination, mammography, fine needle aspiration cytology and tissue biopsy), they are associated with sub-optimal sensitivity and specificity. Therefore, there is a need to develop efficient screening and diagnostic tools that detect breast cancer at an early stage, with enhanced specificity and sensitivity and using non-invasive strategies. Saliva, often termed as the “mirror of the body”, has been reported to show proteins or mRNA analogous to patients’ tumor status. Currently available detection tools are based on techniques such as Real time PCR and ELISA, that involve tedious sample processing. In order to reduce processing time while maintaining the assay specificity and sensitivity, we propose the development of an aptamer-based electrochemical sensor for biomarker detection using patient saliva for early detection of breast cancer.

Natural Product

LC-MS based dereplication strategy for isolation of novel bioactive natural products from plant sources



Natural products play a very important role in the discovery of new drugs. Dereplication technique has reinvigorated the natural product based drug discovery process by improvising the time required for isolation of novel molecules. LC-HRMS based dereplication method has been established at NIPER-A to identify known compounds from medicinal plants. Macrosolen capitellatus, a South Indian Mistletoe was selected for LC-MS based dereplication and identified Rutin and Pinocembrin-7-O-[4’’,6’’-(S)-Hexahydroxy Diphenoyl]-β-D-Glucose successfully. Various projects are undergoing to identify novel bioactive compounds from natural sources. Subsequently, bioassay guided isolation and identification of novel anticancer leads from selected Indian medicinal plants.

Natural Product Chemistry: With the renaissance of natural products as drug candidates, and the recent recognition of the value and contribution of natural product based drugs to societies by the Nobel Prize in Physiology or Medicine 2015, the situation has taken a positive change for natural product chemistry. As we know, very often, natural products occur in only little amounts in organisms. Moreover, natural products display widespread structural diversity and important bioactivities or are potentially bioactive, which rend them ideal sources for discovering and developing medicines, agrochemicals, and many other useful chemicals.

Thus, the chemical synthesis (total or semi-synthesis) of natural products constitutes an important area of research. Newer approaches for their synthesis and product diversification always continued to be a challenge for researcher. To this extent, our research group is focused on development of C–H functionalization reactions, which are now possible for the selective conversion of strong, unactivated C–H bonds into C–X, C–O, C–N, and C–C bonds. As designs or framework emerge from the variety of C–H functionalization methods, they may enter the crucible of total synthesis or semisynthesis. Further this approach can be utilized to diversify the natural product at late stage to obtain structural analogues. The synthesized structurally diversified molecules will be screened for their biological activity.

Establishment of Q-Marker system for standardization of traditional Ayurvedic polyherbal formulations:

Ayurvedic system of medicine is one of the world's oldest holistic healing systems in India. According to WHO, around 80% of the world's population relies on the traditional system of medicines for their healthcare needs. Ayurvedic polyherbal formulation (PHF) uses multiple herbs in medicinal preparation which makes it challenging to maintain the quality standards. Unlike the western system of medicines which have clear and validated quality standards, quality control of herbal medicine is an issue of great concern. The safety and effectiveness of ayurvedic medicine in clinical practice is directly related to the quality of Polyherbal formulations. Quality aspects of herbal medicine are documented in guidelines and monographs in official texts but these standards are neither associated with the efficacy of the formulation nor represent the medicine as a whole. Ayurvedic system of medicine is emerging as an attractive alternative to mainstream medicines with reliable therapeutic efficacy and minimal toxicity. However, the complexity of chemical constituents, inadequate quality control and lack of proper tools to understand its therapeutic efficacy, halt the development of Ayurveda. Q marker is a new concept recently coined by Prof. Liu for traditional Chinese medicine. This new concept could apply to polyherbal formulations of our traditional Ayurvedic system of medicine. The Q-Marker refers to certain types of substances or characteristics that can represent the quality of herbal medicines. In a nutshell, The Q-Marker refers to the morphological, chemical, biological and ecological characteristics and markers that influence the quality of end products. NIPER-A will soon initiate a few research projects on the standardization of polyherbal formulations using this new concept.

Fingerprinting herbal extracts by LC-UV-MS for chemical marker identification and extraction efficiency

Diabetes is a major disease ruining lives of people worldwide and the menace is expected to increase even more because of the current life style issues. World Health Organizations global report on diabetes indicates that nearly 422 million adults are suffering with diabetes and this figure is expected to rise to 642 million people worldwide by 2040. Recent WHO reports have given emphasis on herbal preparations for treatment of diabetes. The herbal products typically contain aqueous plant extracts, polar and water soluble components from the plants, most likely responsible for bioactivity. However, common chromatographic methods include analysis of plant extracts using reversed phase C18 column. These columns usually do not retain polar compounds and hence elution occurs at void volume. Natural Products research team at NIPER-A is making efforts to retain and resolve polar components of herbal extracts by applying advance chromatographic methods, which is crucial in the analysis of herbal formulations (Momordica charantia). Extraction efficiency have been checked using different techniques such as as maceration, ultrasonication, microwave assisted, and semi-bionic extraction. Each obtained extract was then quantified with respect of swertiamarin using HPLC. The results were revealed that maximum yield of swertiamarin (9.89%) was measured in ultrasonication extract, which was about 9 times higher than that of conventional method.

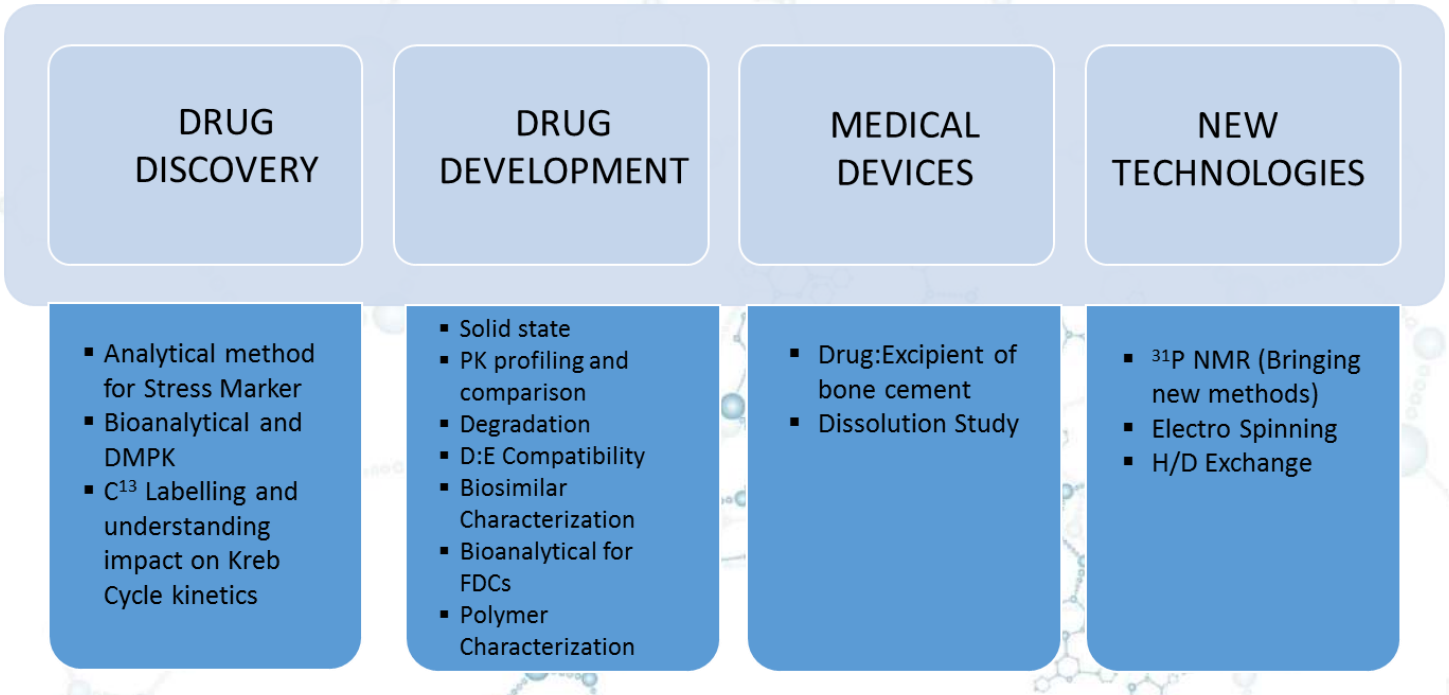
Bio-prospecting of endolichenic fungi to discover novel bioactive scaffolds

Natural Products based drug discovery has given so many novel scaffolds and almost 40% of approved drug has its origin from nature. Recently, several reports have been published on chemical diversity of endolichenic fungi, however they have not extensively studied from all geographical locations. Mangrove associated endolichenic fungi is a relatively new niche in the natural products realm, but shown tremendous potential of delivering important bioactive compounds. Study of chemical diversity of endolichenic fungi associated with mangroves present in Gulf of Kutch, Khambhat (Gujarat, India) and Gulf of Negombo (Sri Lanka) is the prime objective of this project. LC-MS based dereplication methodology will be applied for early identification of known metabolites. Isolation and characterization work will be focused only on shortlisted extracts with higher probability of finding novel molecules. The compounds will be screened for anticancer and anti-diabetic activity. This is a collaborative project between University of Kelaniya, Sri Lanka and NIPER-A, India.

Identification of a Natural Products possessing GLP-1R agonist activity from the plants recognized to have anti-diabetic potential; in silico approach followed by the testing of shortlisted molecules by specific in vitro assay. Diabetes mellitus is a chronic metabolic disorder responsible for morbidity in the western world and is gradually becoming prevalent in developing countries too. Available therapies which are currently in the market have some major issues like hypoglycaemia (Sulfonylurea), diarrhea (Biguanide). So, there is a need to develop novel targets. Extensive research brings out various new targets including Glucagon like Peptide-1 receptor (GLP-1R). GLP-1R agonist molecule increases insulin secretion, reduces gastric emptiness, increase glucose uptake and storage in skeletal muscle and liver. Natural products have an immense history for curing diseases and it contains different scaffolds/ring structures with bioactivities. This provides a great opportunity for the development of new lead or drug with potent GLP-1R agonist activity. Initially, 236 small molecules were selected for in silico study based on their preliminary in vitro anti diabetic activity in different cell line. Among these 236 compounds 5 compounds have shown "hit" in different molecular docking software based on their binding affinity and interaction with different amino acid against GLP-1 model. The selected molecule has been isolated and conducted simulation studies to further strengthen the proposed mechanism of action. Insulin secretion assay has been established in house to check the overall efficacy. However, in vitro GLP-1R agonist assay will be performed for the establishment of mechanism of action.

Pharmaceutical Analysis

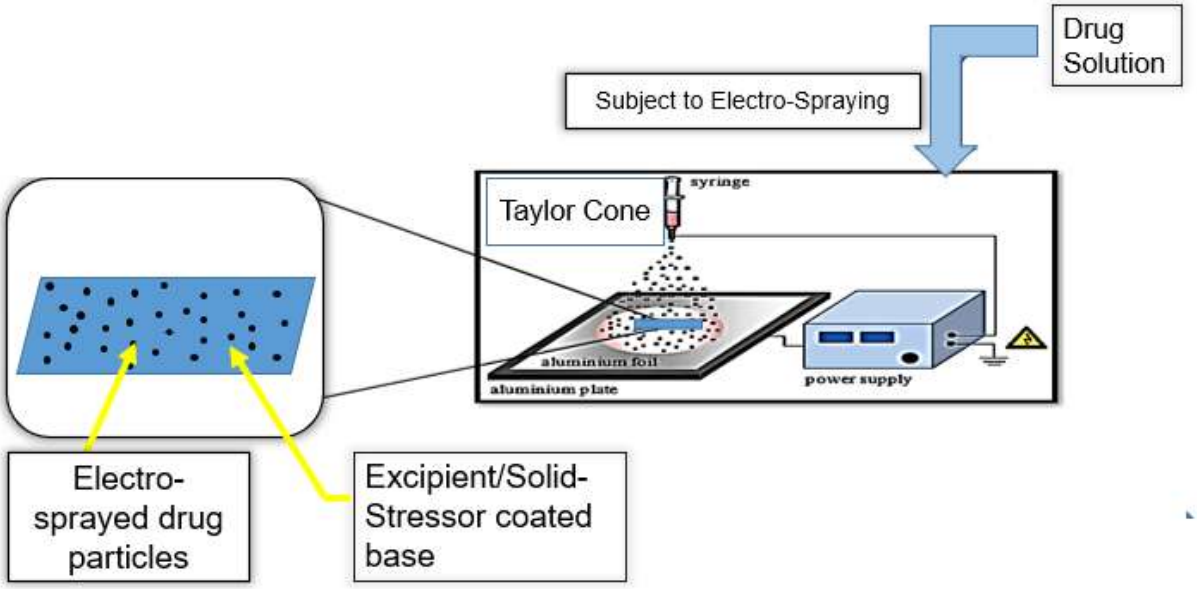
The Pharmaceutical analysis department is working on dynamic topics in the field of drug discovery, drug development and medical device with cutting edge analytical technologies. The below figure describes diversity in research on-going at the Pharmaceutical analysis department at NIPER-A.



The glimpse of research is described below:

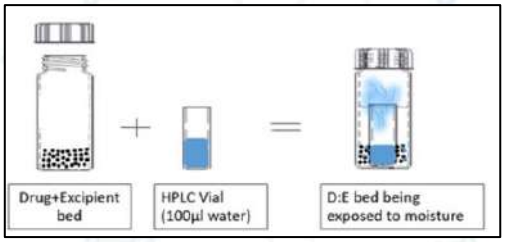
Drug-excipient compatibility studies

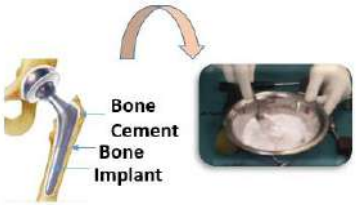
We explore novel approaches for drug-excipient compatibility studies which can rapidly identify any drug-excipient incompatibility and help in the selection of suitable excipients for dosage forms. Hence the novel approaches fasten development phase of the drug. One of the novel approaches involves electrospraying of drug solution onto the excipient coated base (Fig 2). The second approach is to place an HPLC vial containing water on the drug-excipient bed lying in a big vial to mimic the moisture (Fig 3). The HPLC method is developed and validated for analysis of isothermally stressed samples. The amount of drug degraded is determined and further degradants are characterized by FT-IR, LC-MS/MS and NMR spectroscopy.



Forced degradation studies of APIs and NCEs using HPLC, LC-MS/MS and qNMR

The drug is exposed to different stress conditions (acidic, basic, neutral, oxidative, thermal and photon) to generate all the possible degradants. Stability indicating HPLC assay method is developed and validated to analyse the stressed samples at each time point. The percentage degradation is calculated and degradants are then identified using LC-MS/MS and NMR spectroscopy after isolating through preparative HPLC. We also employ qNMR for the rapid, easy and accurate determination of drug degradation.



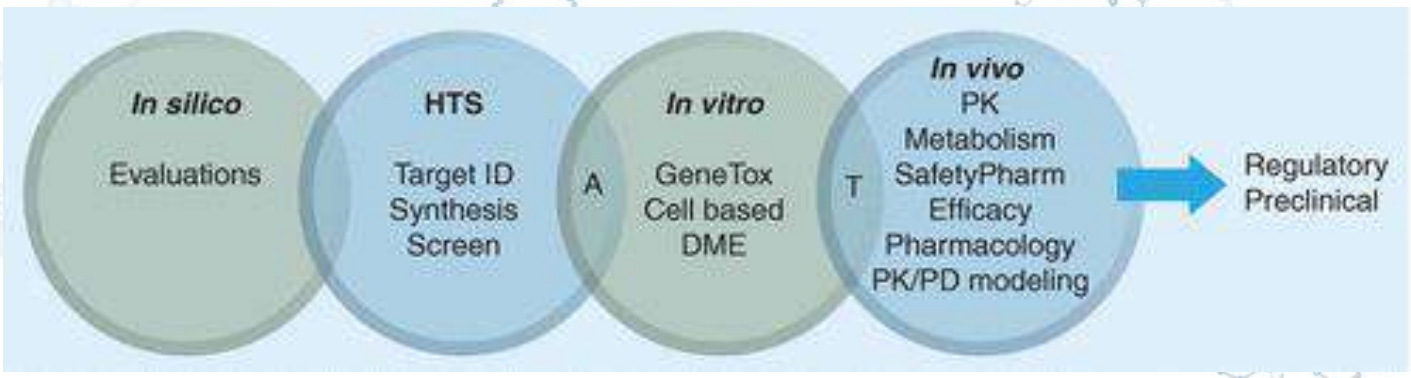


Drug-Device compatibility and drug release study

The compatibility study involves the exposure of accelerated conditions of temperature and humidity to the drug-bone cement components. The processed samples are analyzed using HPLC, DSC and FT-IR. The HPLC method is developed and validated to determine the in vitro release of drug from the bone cement into simulated body fluid

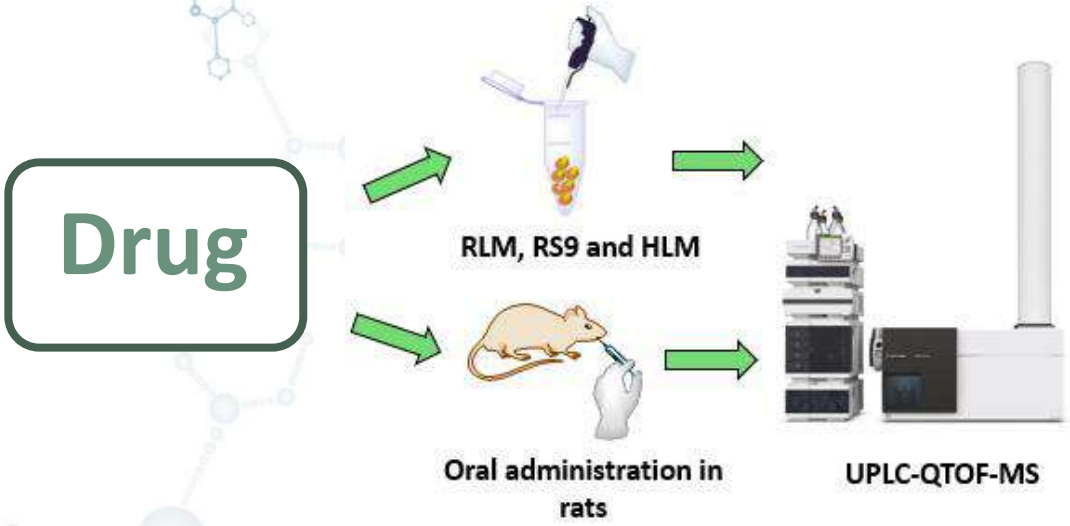
Bioanalysis, drug metabolism and pharmacokinetics

The development and validation of bioanalytical method using instruments like HPLC, LC-MS/MS is one of the major research areas. It is used for quantitative measurement of a compound or their metabolites in biological fluids majorly blood, plasma, serum, urine, cerebrospinal fluid, etc. Quantitative measurement of the active drug or their metabolites are used for the accurate assessment of pharmacokinetics (PK), toxicokinetics (TK), bioavailability (BA), bioequivalence (BE), and exposure-response (pharmacokinetics/ pharmacodynamics) relationships.shows how bioanalysis is mainly restricted to in vitro and in vivo analysis which helps in identifying the lead compound with desired pharmacokinetic parameters, metabolites, toxicity, etc



Analysis of NCEs and generic drugs in biological fluids, validation of method of analysis in different matrices, preclinical in vivo pharmacokinetic study of NCEs in animal species, plasma protein-binding studies, drug-drug interaction studies, tissue distribution studies, toxicokinetic studies, in vitro metabolism studies are the major area of our research in this field.

Metabolite profiling itself is a vast area for research. The identification and quantification of metabolites will indicate the routes of drug elimination, drug-drug interaction & safety profile. Metabolism takes place by Phase-I and phase-II reactions. The rat liver microsomes are commonly used for in vitro drug metabolism studies. For in vivo metabolism study plasma, urine, faeces, and tissue are collected after drug administration and injected in LC-MS after purification (Fig 5).



Analytical Approaches for Polymer Characterization

We characterize polymers by evaluating various CQAs against the QTPP of the formulation by different analytical techniques along with QbD approach. The evaluation of CQAs is done with analytical tools such as the ratio of monomer by NMR, Molecular weight by Gel Permeation Chromatography (GPC), Glass transition temperature from DSC, and viscosity by rheometer, particle size distribution by zeta sizer.

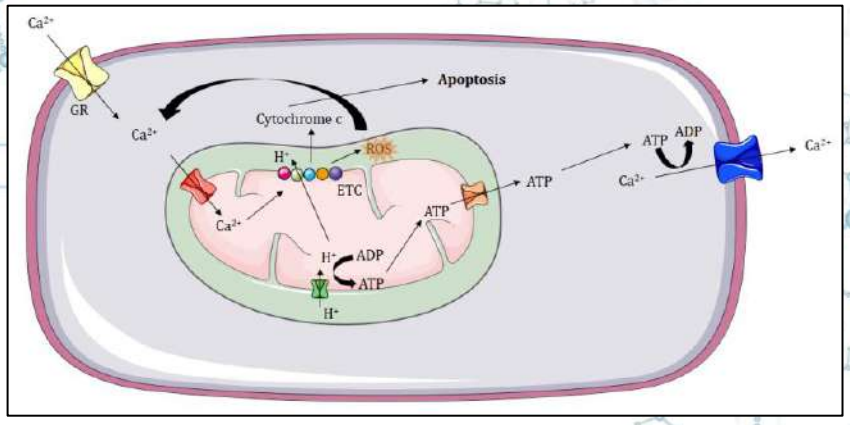
Biosimilars characterization

We also develop orthogonal analytical methods to extensively characterize biological products which can identify potential product differences affecting purity, safety and efficacy of biosimilar candidates compared with the reference product. These orthogonal methods include SDS-PAGE for molecular weight and purity determination, Isoelectric focusing for isoelectric point and charged heterogeneities determination, 2D Gel electrophoresis for quantification of impurity, LC-Q/TOF for intact mass, disulfide bridge analysis and peptide mapping, NMR for Principle component analysis. These orthogonal methods can be adopted by IP for the quality assessment of biological products to prevent the entry of substandard biological.

Pharmacology and Toxicology

Mitochondrial protection in ischemic stroke using intra-arterial mesenchymal stem cell treatment

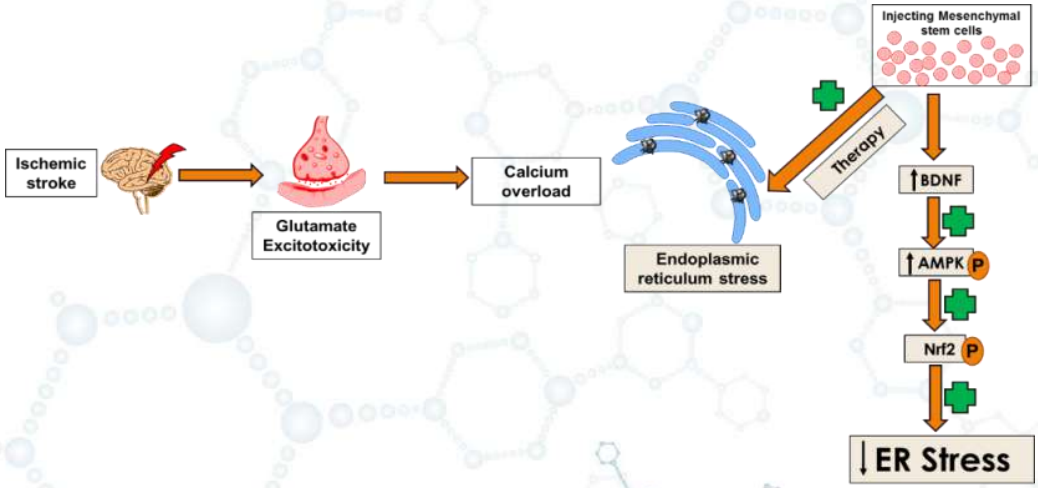
In last decade, laboratory studies suggest stem cell therapy as a prospective treatment for stroke. Studies demonstrate that the post-ischemic delivery of mesenchymal stem cells (MSCs) significantly reduces ischemic brain damage in animal models of ischemic stroke. Furthermore, MSCs are delivered either by direct transplantation, intravenous or intra-arterial/carotid route. The intra-arterial (IA) administration of MSCs is promising for ischemic stroke treatment because it delivers cells directly to the site of injury as unlike systemic delivery of MSCs following traditional intravenous approach.



Additionally, IA MSC therapy is minimally invasive than direct transplantation. Post-ischemic mitochondrial dysfunction plays an important role in cerebral ischemic damage. This dysfunction involves a drastic change in the activity of mitochondrial respiratory chain complexes, increased production of reactive oxygen species (ROS), mitochondrial swelling, the release of mitochondrial pro-apoptotic molecules, and related cellular damage. We aim to elucidate the mechanism by which mitochondria can be salvaged and protected following an ischemic episode by IA MSCs delivery. Protecting post-ischemic mitochondrial function by cell therapy can be an important strategy for post-ischemic neuroprotection.

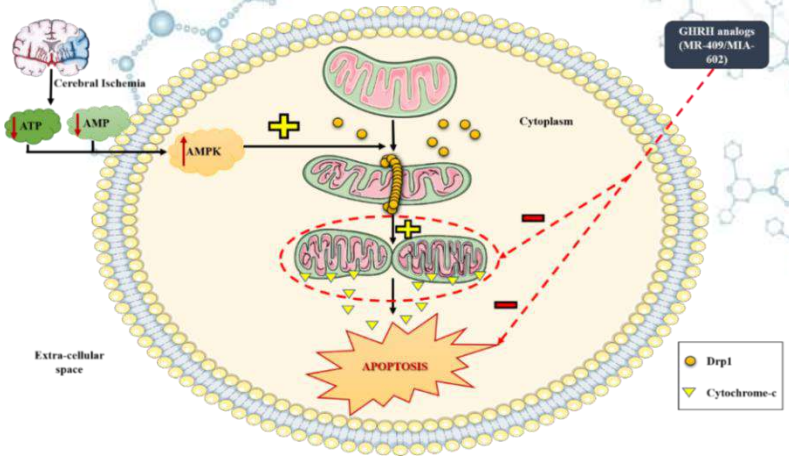
Stem Cell Therapy to Counteract Endoplasmic Reticulum Stress in Ischemic stroke

Endoplasmic reticulum (ER) stress is an intricate mechanism that mediates several responses during stroke, thus being essential in determining the fate of neurons. The role of ER stress is highly important. In addition to resulting in neuronal cell death through calcium toxicity and apoptotic pathways, ER stress also triggers a series of adaptive responses including unfolded protein response (UPR), autophagy, the expression of pro-survival proteins and the enhancement of ER self-repair ability, minimizing the ischemic damage. Mesenchymal stem cells (MSCs) can be used as a therapeutic armor for stroke. Many studies have shown that transplanted MSCs could secrete cytokines and growth factors, which could enhance the process of angiogenesis and neurogenesis, and subsequently improve the neurological functions. Our aim is to understand the mechanism by which IA MSCs can protect neural tissue against ER stress.

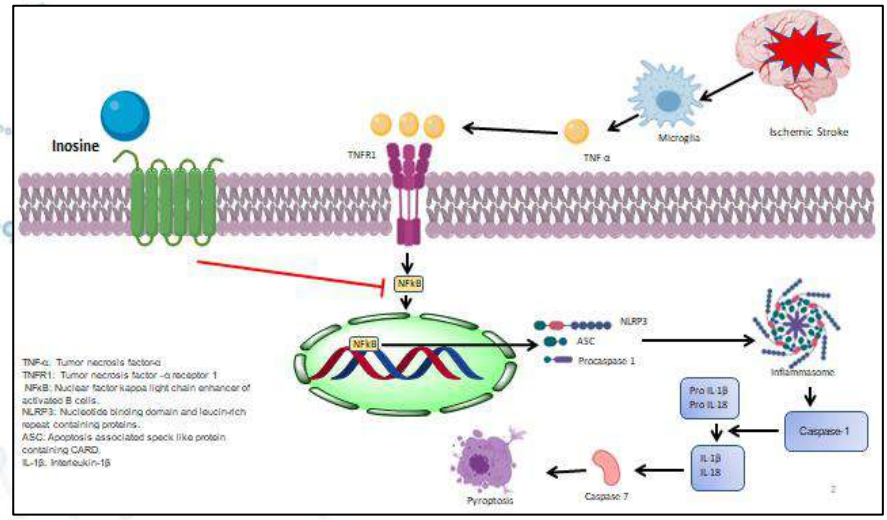


Therapeutic strategy based on targeting growth hormone releasing hormone (GRH) receptors for mitochondrial protection in ischemic stroke

Many neuropeptides and hormones are reported to be neuroprotective following ischemic stroke. To date, neuroendocrine modulation following ischemic stroke has not been explored in detail. Our collaborator Nobel Laureate Prof. Andrew Schally has synthesized few GHRH analogs (MR409/MIA-602) and investigated their biological activity in different pathologies reporting those as beneficial. The exact molecular mechanism behind these effects are yet to be deciphered. Mitochondrial dysfunction plays an important role in cerebral ischemic damage. Hence, protecting post-ischemic mitochondrial function is considered as an important therapeutic strategy for neuroprotection. Therefore, the novelty of this study lies in deciphering the role of GHRH receptors as a therapeutic target in ischemic stroke by modulating mitochondrial dynamics.



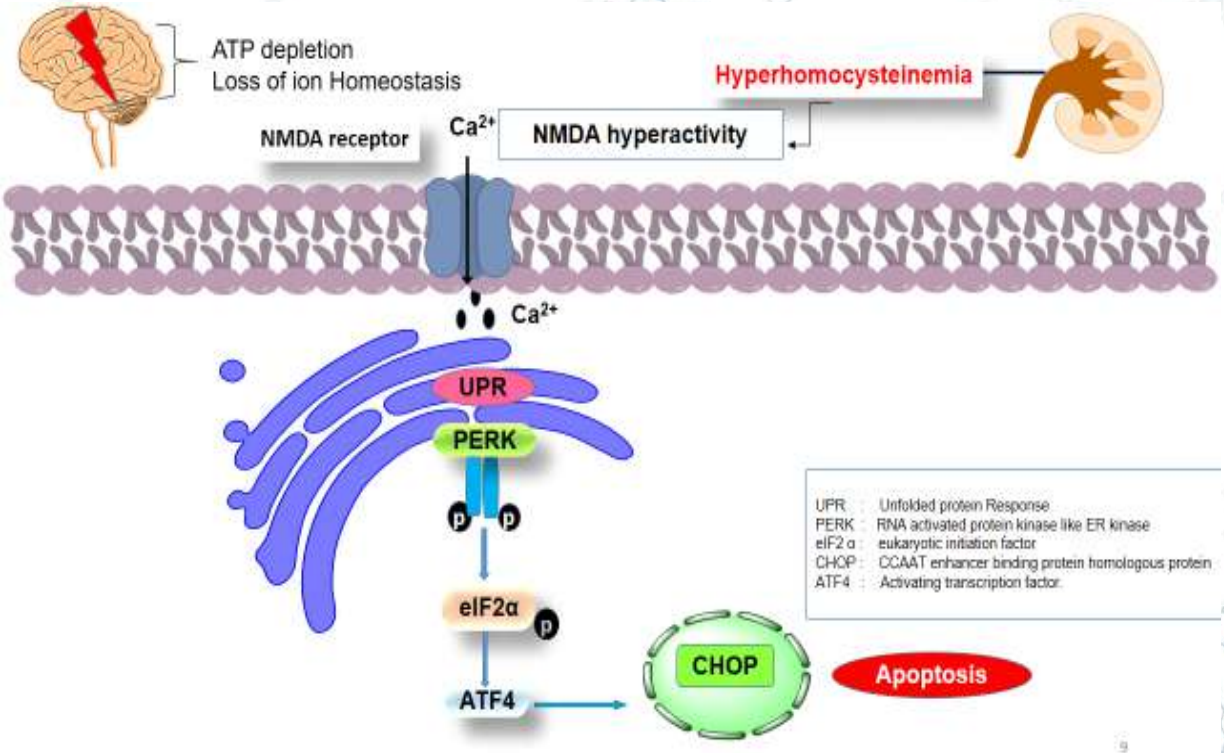
Investigating the role of inosine on inflammasome signaling in animal model of ischemic stroke



At the early stage of cerebral ischemia activation of immune response causes invigoration of microglia that induces TNF-α to act on TNFR1 receptor. Activation of TNFR1 receptor further activates NFB and promotes its nuclear translocation. This leads to increase in the expression of inflammasome components, namely, NLRP3, ASC and Procaspase-1 and also promotes the assembly of inflammasomes. Activation of inflammasome signaling activates the conversion of procaspase-1 to caspase-, which in turn promotes the conversion of proinflammatory cytokines (pro IL-1β,pro IL-18) into inflammatory cytokines (IL-1β, IL-18). This ultimately leads to pyroptosis and neuronal cell death. Inosine, a naturally occurring purine nucleoside, has shown to promote axonal collateral growth and maybe useful in ischemic stroke. For this study, we aim to see whether inosine plays a role in preventing the activation and assembly of inflammasomes in a rodent model of cerebral ischemia.

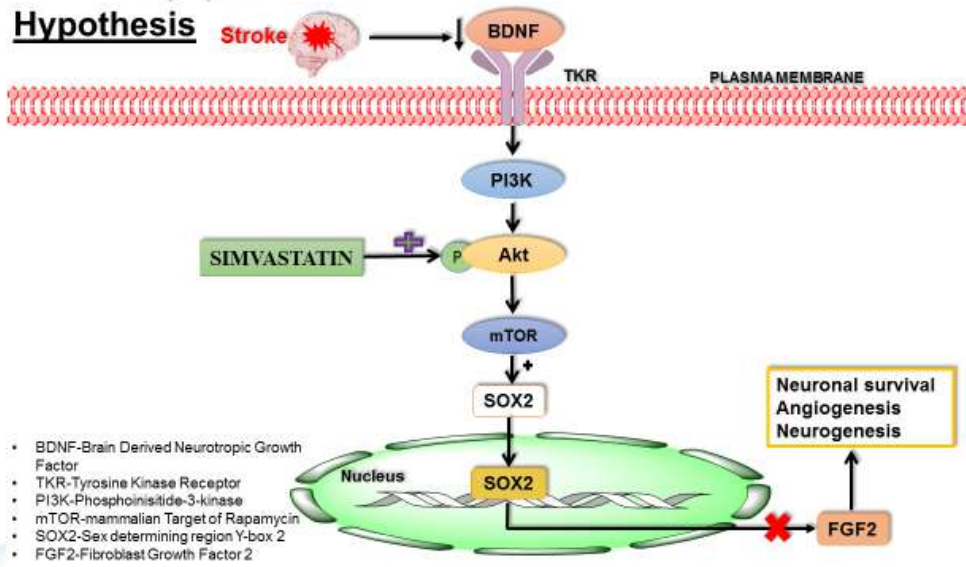
Exploring the effect of endoplasmic reticulum stress in exacerbation of stroke pathology in chronic kidney disease

Chronic Kidney Disease (CKD) is now known as an established risk factor for cardiovascular diseases. Stroke is a major player of cardiovascular disease and has a deep two-way relationship with CKD. Homocysteine (Hcy) is a non-proteiogenic amino acid which is found to be increased in CKD and may exacerbate stroke pathology. Hcy is a toxic, sulfur-containing intermediate of methionine metabolism. Hyperhomocysteinemia (hHcy), as a consequence of impaired Hcy metabolism or defects in crucial co-factors that participate in its recycling, is assumed as an independent human stroke risk factor. The endoplasmic reticulum (ER) plays an important role in the maintenance of protein homeostasis through its control of conformation, folding, and trafficking of client proteins. Disturbances such as hypoxia, glucose depletion, and oxidative stress may lead to ER dysfunction, which can induce ER stress and the subsequent unfolded protein response (UPR). UPR leads to activation of downstream signaling pathway and finally transcription of CHOP protein that is an apoptosis inducing factor. We hypothesize that homocysteine increases ER stress, leading to altered apoptosis. This over time may lead to exacerbation of stroke pathology in CKD.



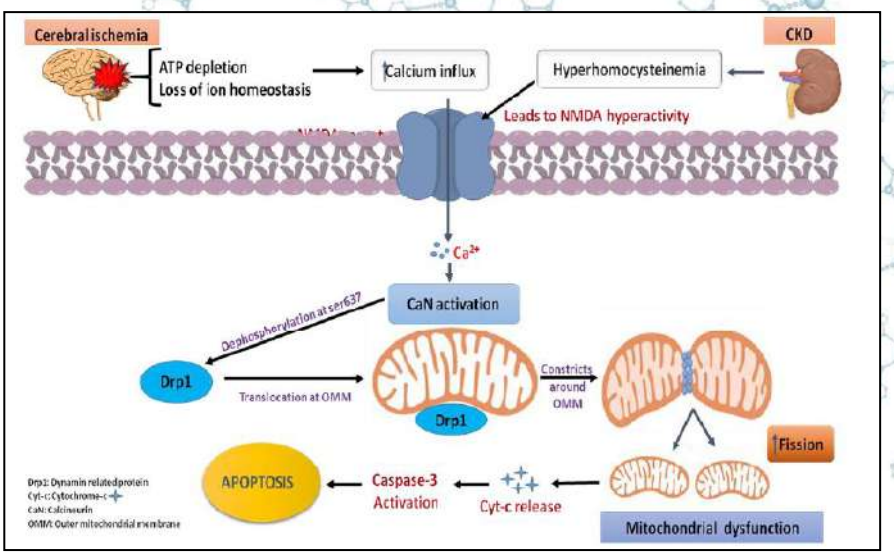
Deciphering the role of statin in neurogenesis after focal cerebral ischemia

Under physiological conditions, binding of growth factor (BDN) to the tyrosine kinase receptor, activates PI3K, which phosphorylate Akt leading to the activation of mTOR. Activated mTOR increases the expression of Sox2, which is a transcription factor. This Sox2 increases the expression of FGF2, which is involved in the differentiation of neural progenitor cells (NPCs), ultimately leading to neuronal survival (neurogenesis) as well as angiogenesis. Simvastatin is also reported to increase the phosphorylation of Aktalong with the levels of BDNF. Following stroke, deprivation of growth factor will lead to decreased phosphorylation of Akt, ultimately leading to reduced neurogenesis. We aim to understand whether administration of simvastatin post stroke may induce neurogenesis via the Sox2 mediated pathway.

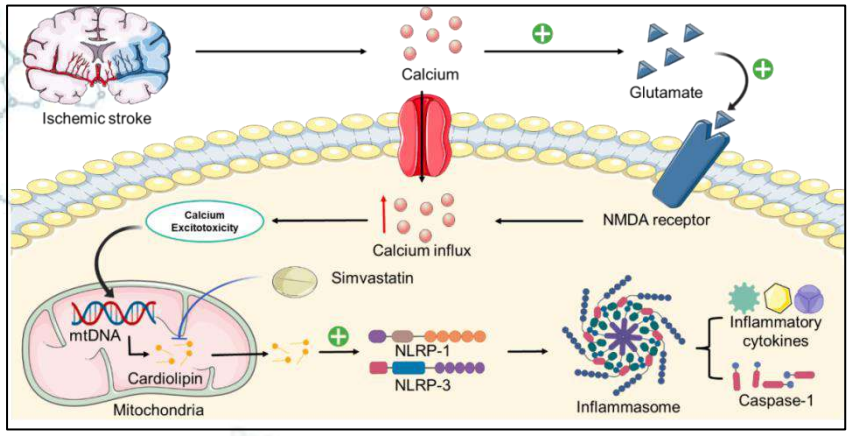


Exacerbation of ischemic stroke pathology in CKD: Involvement of mitochondrial dysfunction

Renal impairment has been associated with poor neurological outcome with functional declination and higher morbidity. Mitochondrial dynamics comprising of continuous fission and fusion processes is vital as it is involved in the maintenance of mtDNA integrity, redox signaling, and its morphology. Excessive mitochondrial fission leads to increase in fragmentation of mitochondria and results in dysfunction of mitochondria. Dynamin related protein (Drp1) is the master protein responsible for mitochondrial fission. Following ischemia, due to ATP depletion, there is increased calcium influx leading to the activation of NMDA receptors. Further, there is an activation of calcineurin (CaN) due to elevated intracellular calcium levels. CaN dephosphorylates Drp1 at ser637,causing its translocation towards the outer mitochondrial membrane (OMM) instigating the fission process. Increased fission leads to mitochondrial dysfunction promoting the release of cytochrome c and activation of caspase 3 initiating apoptosis. CKD leads to hyperhomocysteinemia and Hcy being a NMDA agonist causes its hyperactivity and hence inciting the downstream pathway. Thus there might be exacerbation in the severity of mitochondrial dysfunction and apoptosis in the case of both CKD and stroke. We hypothesize that mitochondrial dysfunction may play a role in the exacerbation of ischemic stroke pathology due to CKD.



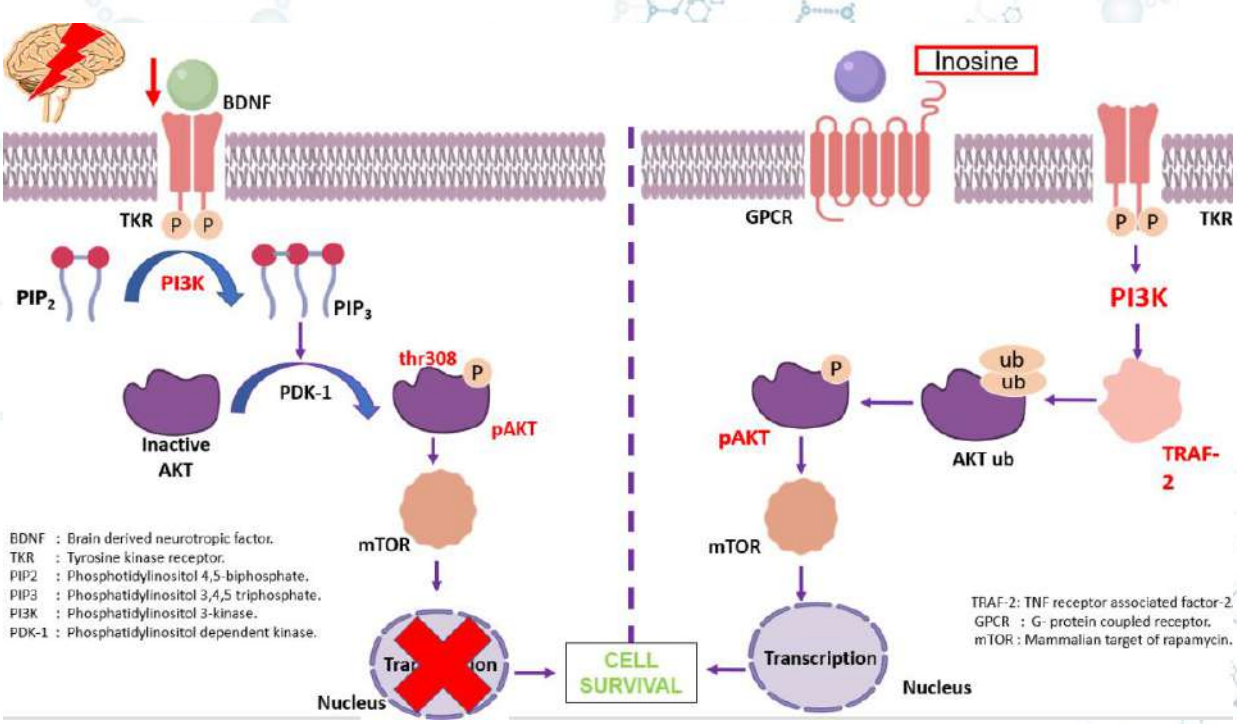
Probable mechanism of exacerbation of Ischemic stroke pathology in CKD



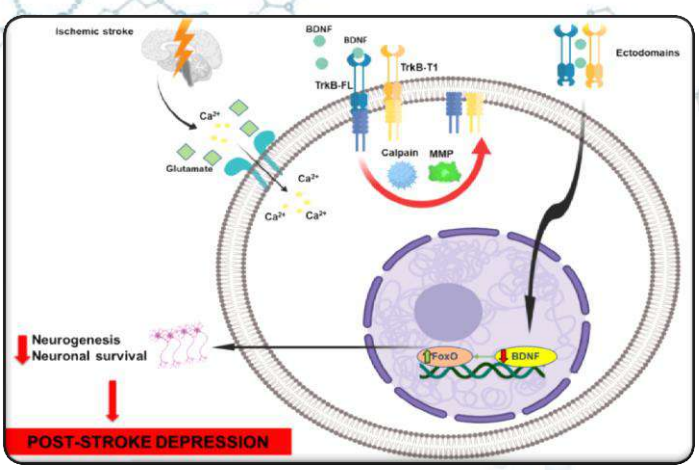
Deciphering the role of statins in altering mitochondrial function in ischemic stroke The pathophysiology of stroke is complex and involves various mechanism like excitotoxicity, inflammation, oxidative/nitrosative stress, ionic imbalance and apoptosis. The ultimate result of the ischemic cascade activation is neuronal death along with an irreversible loss of neuronal function. Under normal condition, mitochondria plays a crucial role in maintaining various cellular process, with cardiolipin playing an important role in maintaining mitochondrial membrane integrity and apoptosis. Past studies have shown, during ischemic insult, mitochondrial DNA gets oxidized and when oxidized mitochondrial DNA gets exposed to cardiolipin, it leads to inflammasome activation resulting in caspase 1 activation and maturation of proinflammatory cytokines. Statins are HMG-CoA reductase inhibitor. Along with this activity, statins have many other pleotropic effects, as a result it has potential to be used in other pathologies. For this study,we aim to understand the effect of simvastatin on mitochondrial functionality and inflammasome mediated cell death in rodent model of ischemic stroke.

Investigating the role of inosine in cerebral ischemia via pi3k/akt pathway

This study aims in investigating the role of inosine in neuroprotection via PI3K/Akt pathway. Under normal physiological condition, neurotropic factors like brain derived neurotropic factor (BDNF) act as ligand for receptor tyrosine kinase (RTK) which results in its autophosphorylation. RTK further activates PI3K pathway via conversion of phosphotidylinositol (3,4)-bis-phosphate (PIP2) to phosphotidylinositol (3,4,5)-tris-phosphate (PIP3). PI3K then translocates phosphoinositide dependent kinase-1 (PDK-1) from cytoplasm to cell membrane which leads to phosphorylation of Akt at threonine 308 and activation of mammalian target of rapamycin (mTOR). Activation of mTOR ultimately results in cell survival via activation of transcription factor like eukaryotic initiation factor 4B (eIF4B) and ribosomal protein S6 kinase. After ischemic insult there is reduction in BDNF resulting in inhibition of the downstream signaling which ultimately culminates in neuronal death. We hypothesize that inosine via adenosine receptor, a G-protein coupled receptor may stimulate RTK and may further activate PI3K. Once it is activated it will stimulate several downstream processes leading to enhances neurogenesis.



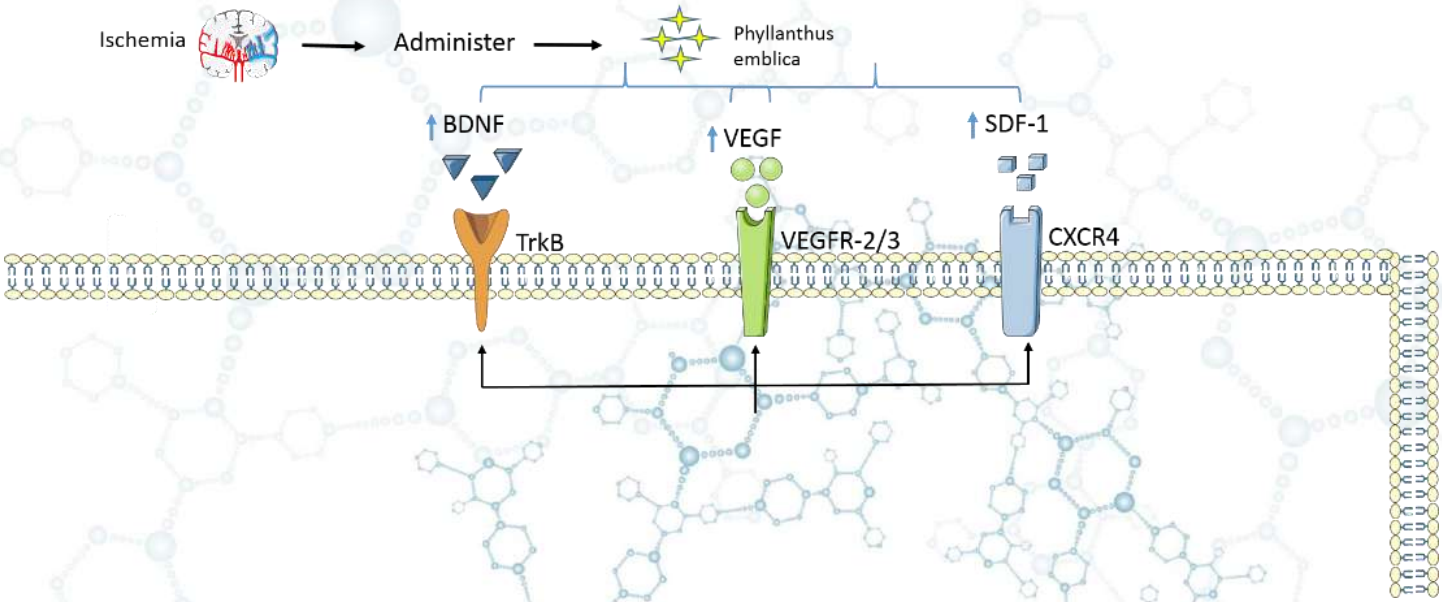
Neuroprotective role of apelin-13 in post stroke depression



Focal cerebral ischemia leads to glutamate excitotoxicity, resulting in increased influx of calcium in cells. Abnormal increase in Ca2+ levels cause changes in the physiological ratio of Tyrosine kinase B (TrkB) due to calpains, matrix metalloproteinases, γ-secretase cleavage. Ectodomains are formed by the cleavage which results in inhibition of Brain Derived Neurotrophic Factor (BDNF). Inhibition of BDNF leads to activation of phosphorylated Forkhead Box O (FOXO) by Protein kinase B (AKT) leading to apoptosis, decrease in neurogenesis which triggers depressive symptoms and cause post-stroke depression. Apelin 13 is reported to exhibit antidepressant activity. For this study we aim to see whether ICV administration of apelin 13 can attenuate the progression of post stroke depression in ischemic rats.

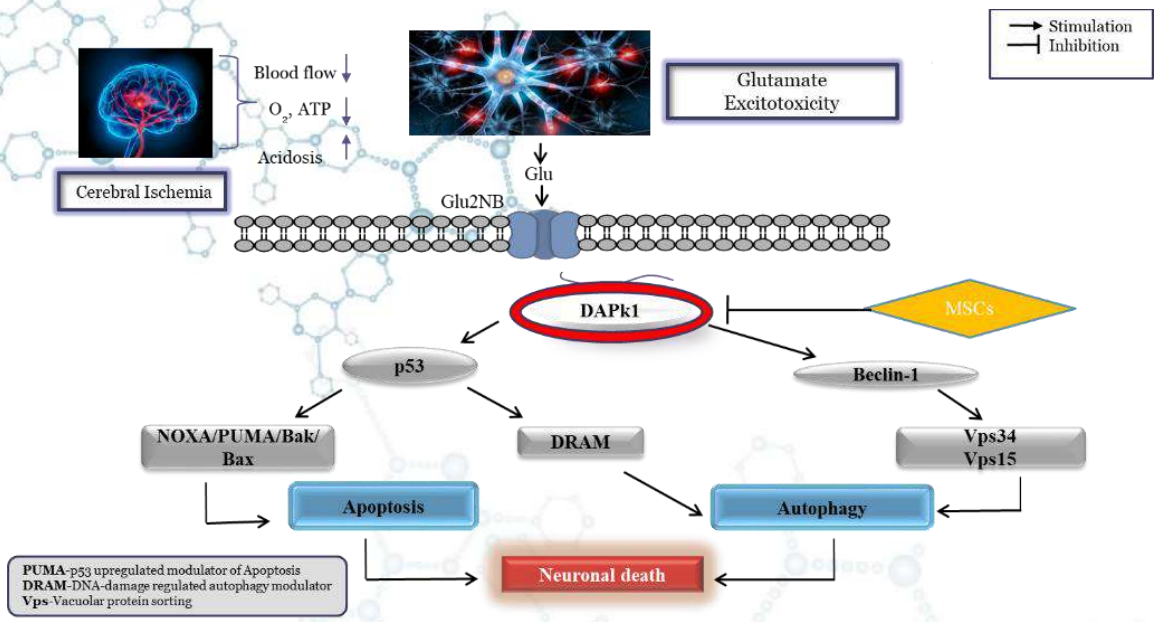
Exploring neuroprotective effect of Phyllanthus emblica in animal model of ischemic stroke.

Neuroprotection remains one of the holy grails of acute ischemic stroke therapy. The ability to protect the ischemic brain from reperfusion injury could theoretically improve disability among stroke survivors. There are several neuroprotective agents available for the treatment of ischemic stroke, including several natural products. Phyllanthus emblica (P. emblica or Amla) is one of them whose medicinal properties are upfront and of paramount medicinal importance. P. emblica fruit is reported to contain polyphenolic compounds and vitamins that act as antioxidant and may have role in making the body defense system robust by elevating the trophic factors (BDNF, VEGF, SDF-1) level in brain. We aim to dive further into understanding the neuroprotective effects of P. emblicain rodent model of ischemic stroke.



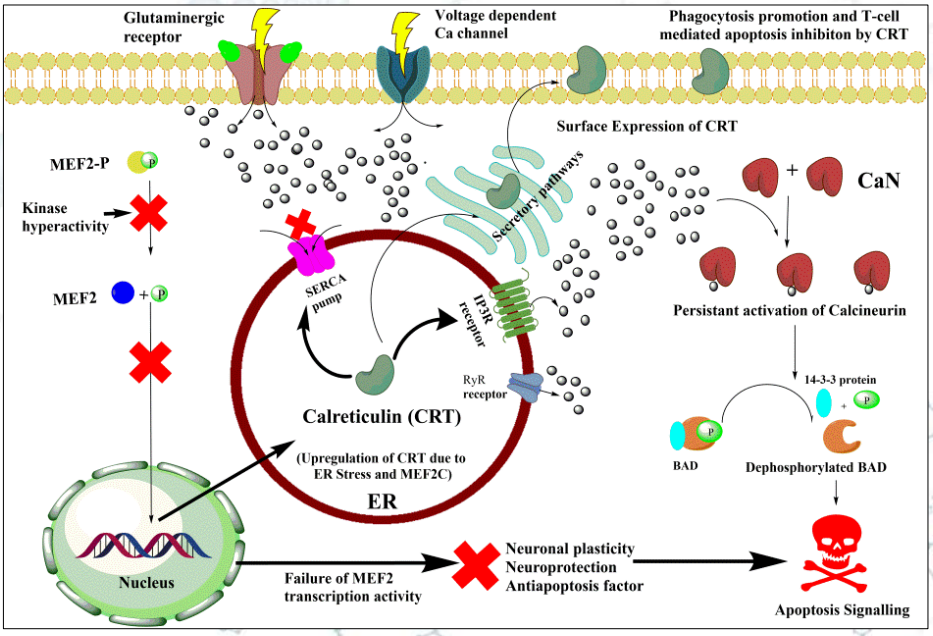
Exploring DAP-kinase pathway in Ischemic stroke by Intra-Arterial Mesenchymal Stem Cells (MSCs) intervention

Cerebral ischemia upregulates Death Associated Protein kinase (DAPk), increases apoptosis and autophagy which eventually leads to neuronal death. However, little is known about the mechanism how DAPk is involved in the neuronal death promoting process during cerebral ischemia. Therefore, exploring the molecular mechanism of DAPk signal transduction pathway involved in neuronal death is necessary. MSCs may regulate the levels of DAPk and may show a great potential for ischemic stroke therapy.



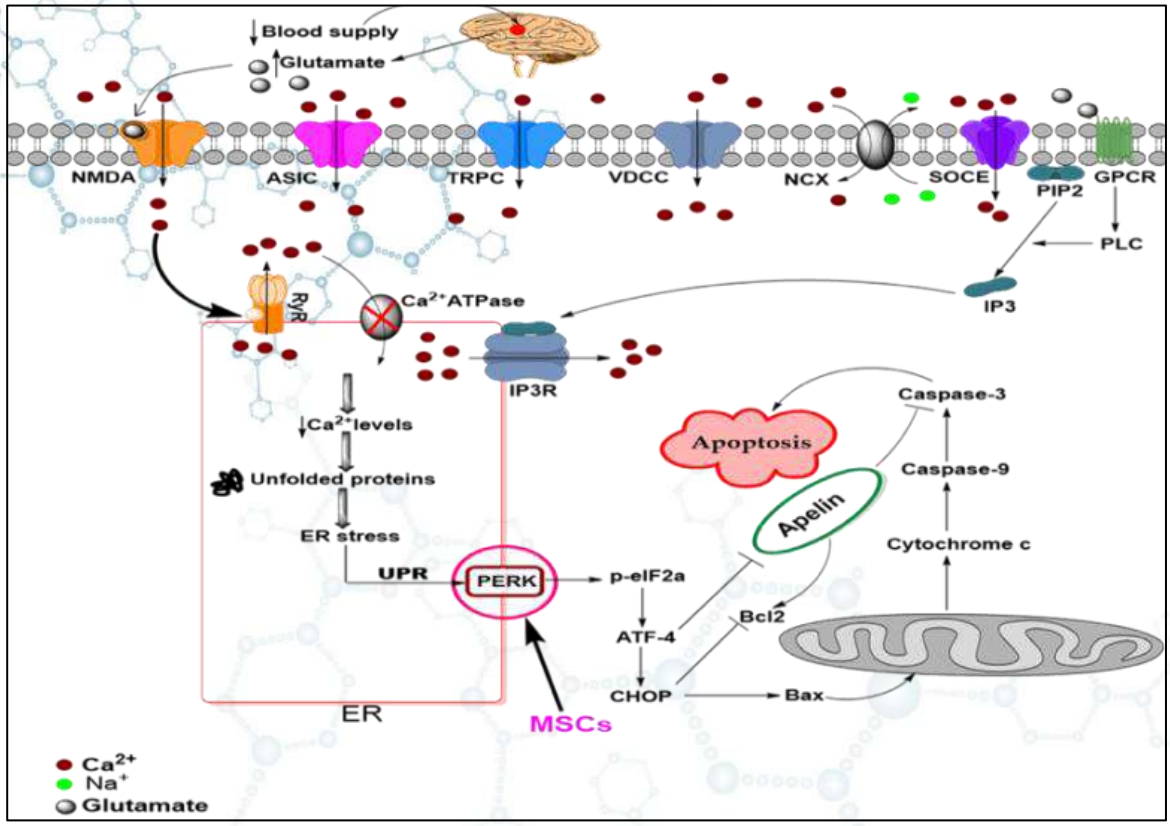
Targeting interplay of lectin–like ER chaperone with calcineurin by stem cells therapy in ischemic stroke

Researchers are targeting mitochondria and the endoplasmic reticulum (ER) to prevent post stroke event. Calreticulin (CRT), a lectin-like ER chaperone plays an important role in protein folding and Ca2+ homeostasis. However, its neuroprotective role in maintaining the neuronal ER integrity, safeguarding the neuron against ischemic reperfusion injury and Ca2+ mediated neuronal insult via interplay with Calcineurin (CaN) in ischemic stroke is less explored. We aim to understand how CRT plays a role in normal physiology of neuron and its impact on ER stress in ischemic stroke before the neuron succumbs to apoptosis. Here, we also aim to understand how mesenchymal stem cell (MSC) help in overcoming neuronal insult and safeguard the ER integrity to promote neuronal cell survival pre-clinically



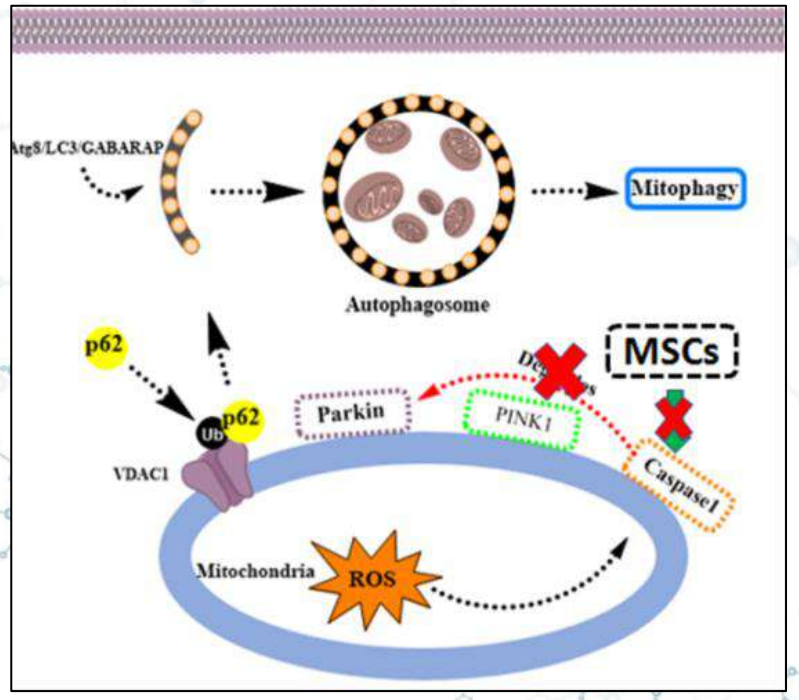
Intra Arterial delivery of mesenchymal stem cells to target "ER-UPR mediated neuronal cell death" in ischemic stroke.

Cellular stress conditions like glucose deprivation, imbalances in calcium homeostasis and dysregulated ATP production in the cell trigger an ER adoptive machinery called the unfolded protein response (UPR). UPR is described by the activation of three ER transmembrane sensor proteins: pancreatic ER kinase (PKR)-like ER kinase (PERK), activating transcription factor 6 (ATF6), and inositol-requiring enzyme 1 (IRE1). Out of these, PERK pathway is well explored and associated with downstream activation of PERK-peIF2α-ATF4-CHOP signaling pathway which eventually leads to neuronal cell death in ischemic injury. We aim to study the influence of IA MSCs on this pathway.



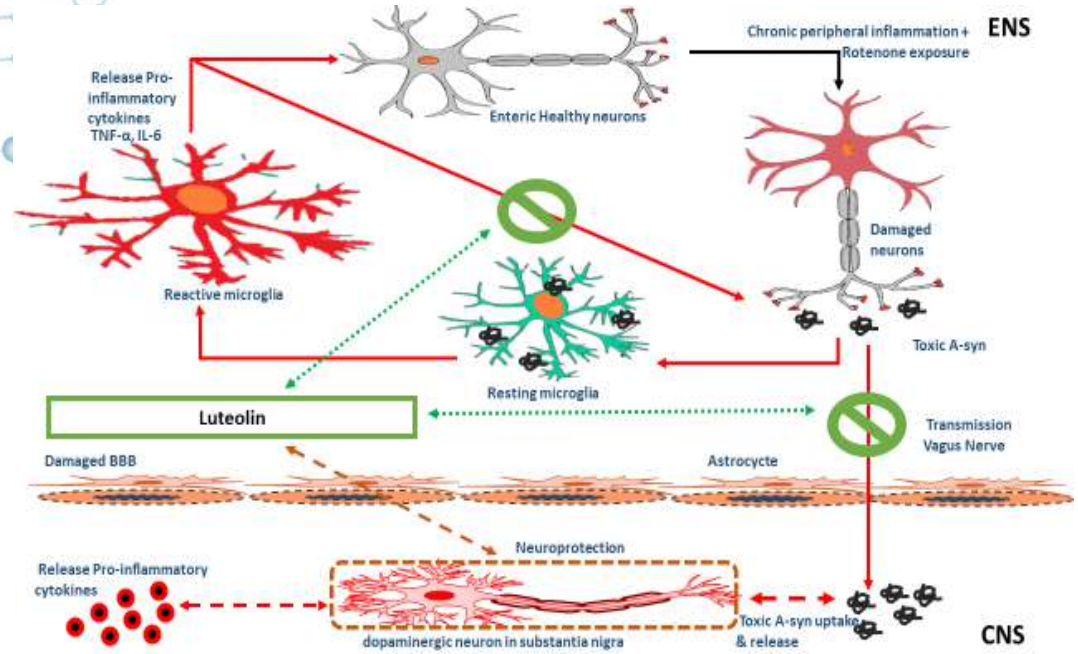
Inhibition of Caspase 1 via Stem Cell Therapy to prevent Mitophagy and neuronal cell death in cerebral ischemia.

Mitochondrial dysfunction is the foremost event involved during stroke, these events set a stage for ROS generation, which activates Caspase 1 and in turn Caspase 1 activation degrades parkin. Parkin is E3 ubiquitin ligase that is recruited to the mitochondrial outer membrane via PINK1 protein during mitochondrial damage, to undergo mitophagy. Following ischemic stroke, degradation of parkin results in prevention of mitophagy leading to increased ROS and neuronal cell death. Our aim is to study the influence of IA MSCs on the process of mitophagy.



Investigating the role of enteric neuronal inflammation in the pathogenesis of Parkinson's disease

It is now well established that Parkinson's disease (PD) is not only a neurodegenerative disorder of CNS but also a gastrointestinal disorder affecting the enteric nervous system (ENS). Keeping this viewpoint in mind, we would like to examine the susceptibility of enteric neurons by providing chronic inflammation by dextran sodium sulphate (DSS) toward slowly progressive rotenone-induced PD mouse model. Chronic intestinal inflammation will be induce with 3 cycles of DSS and subsequently treated with low dose intragastric rotenone for next 4 months to observe the changes in animal behavior, pro-inflammatory cytokines, and tyrosine hydroxylase immunoreactivity and phosphorylated α-synuclein in dorsal motor nucleus of vagus and other brain regions in comparison with control. Taking natural moiety as a core molecule, we will try to assess the suppression of neuroinflammation and thereby slow the progression of PD.



Targeting alpha synuclein accumulation and transmission: Role of AMPK activator

Parkinson's disease (PD) is characterized by the accumulation of intracellular α-synuclein (α-syn) aggregates and degeneration of nigrostriatal dopaminergic neurons.There is no satisfactory treatment available, which can slow or halt the progression of the disease.Recently, AMPK, a serine-threonine kinase has been observed as important target to cure the disease, which works by increasing autophagy and thus, decreasing α-syn aggregation and secondly, by relieving oxidative stress and thus, reducing tunneling nanotubes (TnT) formation and subsequently, transfer of alpha synuclein gets hampered. Therefore, AMPK activators may be useful Anti-Parkinson drug in future. We are also working to develop a new Parkinson's like model by administrating intranasal rotenone nanoformulation, which will be restricted to nasal region and will develop the α-syn pathology from olfactory nerves to substantia nigra in a natural way. We willthen check the effect of AMPK activatorin this olfactory model as well as in in vitro model of PD using SHSY5Y cell lines.

Exploring the role of miRNAs in the breast cancer metastasis by regulating PKM2 and CD98 expression

Metastatic breast cancer is a major burden in the worldwide females. Anoikis resistance is one of the major factors that helps in cancer cell survival while executing the process of metastasis. It solely depends on the cell-extracellular matrix connections that prevents adherent independent cell growth, cell invasion and tissue homeostasis preventing the colonization of cells in distant organs. Moreover, tumor milieu controls the anoikis resistance mechanisms which allows them to survive in anchorage independent conditions by sustaining several cell death cascade processes and high ROS levels. Reports suggested the role of TGF-β1, an important cytokine in tumor milieu for promoting the anoikis resistance and helps in maintaining redox balance. This cytokine even regulates a miRNA i.e., miRNA-128-3p which usually gets downregulated in the breast cancer patients and its upregulation showed to improve the survival outcome. Additionally, TGF-β1 role in upregulating the expressions of proteins like Pyruvate Kinase M2 and CD98 plays has been explained in the literature. These proteins has a major role in the regulation of cancer cell survival, proliferation, amino acid transport and alleviating aerobic glycolysis. Therefore, we are interested to decipher the role of role of TGF-β1 in inducing anoikis resistance by regulating miR-128-3p and PKM2, CD98 levels in breast cancer.

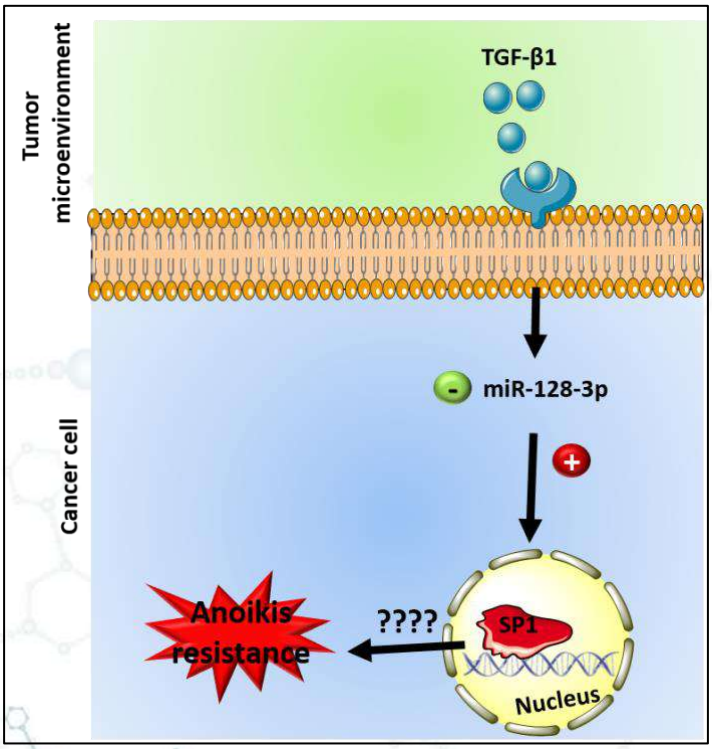
Effect of Boronic acid derivative on chemically induced oral carcinoma in mice via activation of Pyruvate kinase M2

Alteration in metabolic phenotype is considered as the hallmark of cancer which plays a major role in cancer cell growth and its proliferation. In this, major aberration is due to aerobic metabolism of glucose to form lactate, termed as aerobic glycolysis or Warburg effect. Aerobic glycolysis comprises of a rate limiting step in which there is conversion of Phosphoenolpyruvate (PEP) to Pyruvate by the enzyme PKM2 having the tetrameric and dimeric isoforms. Tetrameric form is active and coverts PEP to pyruvate whereas dimeric form has nuclear role resulting in progression of cancer. This report focuses on the PKM2 activator, Boronic acid derivative and details of in- vivo activity of this compound.

Boronic acid derivative activates the enzyme PKM2 and increases the concentration tetrameric isoform resulting in hindrance in tumor development. The effect of this drug will be checked by the macroscopic parameters like tumor count and its volume. Expression of protein makers like PKM2, STAT3, E-cadherin, β-catenin bynative page & western blot and the microscopic studies by H&E staining of transverse sections of tongue samples. The study was carried out on C57BL/6 mice exposed to 4-Nitroquinoline-1-oxide for 16 weeks in drinking water followed by the drug treatment by local administration near tumor using thick solution.

Exploring the effect of indole and aminoindane derivatives as a selective mao-b inhibitor in the models of Parkinson's disease

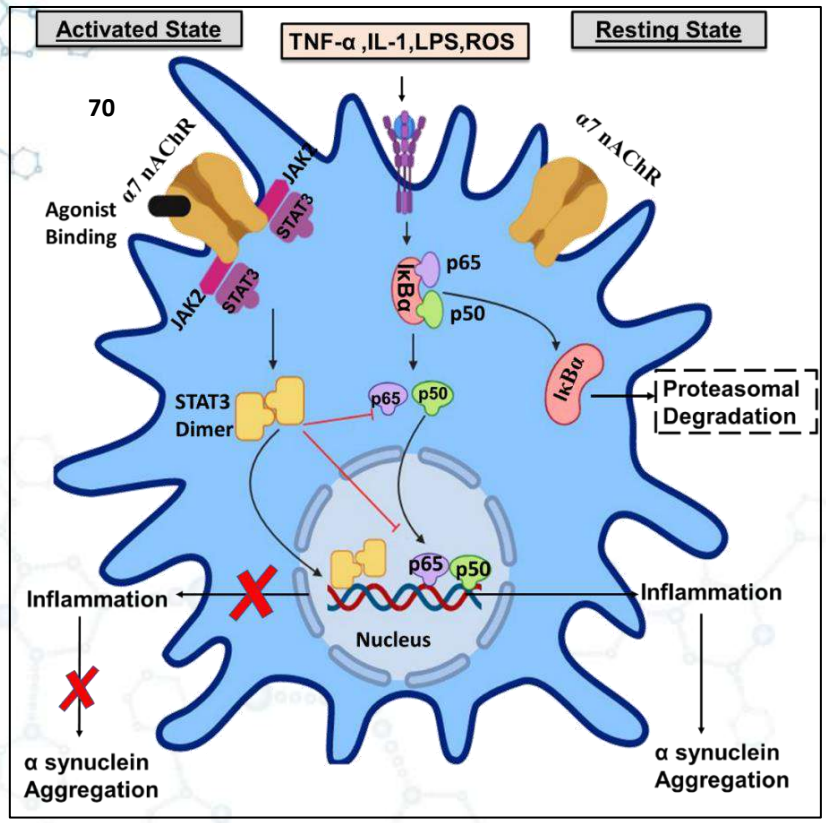
Parkinson's disease (PD) is an age-related, progressive, multisystem neurodegenerative disorder resulting in significant morbidity and mortality, as well as a growing social and financial burden in an aging population. The hallmark of PD is loss of dopaminergic neurons of the Substantia Nigra pars compacta (SNpc), leading to bradykinesia, rigidity and tremor. Current pharmacological treatment is therefore centred upon dopamine replacement to alleviate the symptoms. Monoamine oxidase (MAO-B) inhibitors is one the important category used for symptomatic reprieval, Selegiline and Rasagiline being the major drugs. Along with MAO-B inhibition, both of these propargylamines have shown promising results for the neuroprotective as well in several clinical trials. But due to the limitations of the current MAO-B inhibitors there are insisting needs to develop novel, safer MAO-B inhibitor along with disease modifying drug for treatment of Parkinson's disease. Therefore, the efforts have been made to synthesize the novel compounds retaining all the necessary structural feature with the better modifications. Novel Indole-benzthiazole and aminoindane derivatives will be screened for its selective MAO-B inhibitory activity by in silico methods using molecular docking, in vitro studies using neuronal cell lines (PC 12) and in vivo studies using acute rotenone induced mice model of Parkinson's disease. The neuroprotective activity of the compound can be evaluated by its ability to inhibit α-synuclein aggregation which is the major cause of neurotoxicity in the targeted tissues. From these studies we may get a novel, therapeutic MAO-B inhibitor as a disease modifying treatment to relieve Parkinsonism



Investigating synergistic role of coffee components chlorogenic acid and caffeine on alpha-synuclein aggregation and neuroinflammation in rotenone induced mouse model of Parkinson's disease

Parkinson's disease (PD) is an age-linked neurodegenerative disorder characterized by degeneration of dopaminergic neurons in Substantia Nigra pars compacta (SNpc), ensuing motor impairment and cognitive deficits. Epidemiological studies suggest that coffee intake is associated with decreased risk of PD. Caffeine and Chlorogenic acid (CGA) are copiously occurring constituents of coffee and hence may be essentially accountable of neuroprotection. CGA elicits release of GLP-1 which sequentially actuates PI3K-AKT pathway and thus inhibits GSK-3β. This tethers to decrease in alpha-synuclein aggregation along with NF-κB mediated neuroinflammation which are foremost pathological hallmarks of PD. Caffeine acts as an antagonist of A2B receptors in gut, henceforth decreasing IL-6 and STAT3 mediated neuroinflammation in enteric system which is one of the preliminary stage of PD pathology (according to Braak's hypothesis). Our aspiration is to establish neuroprotective mechanism of CGA and caffeine. For that, we administered CGA (50 mg/kg) and caffeine (20 mg/kg) orally for 4 weeks followed by administration of rotenone (10mg/kg) along with CGA and caffeine orally for 9 weeks. We performed behavioral assessment at 2nd, 4th, 6th, 8th and 9th week of rotenone administration. GLP-1 ELISA was performed to detect GLP-1 increase via CGA administration. Furthermore, we plan to check effect of CGA and caffeine on alpha-synuclein aggregation and neuroinflammation through western blot and immunohistochemistry. From behavioral assessment, motor and memory deficits in rotenone group were seen. Moreover, increase in GLP-1 level was observed upon CGA administration. From the present study, it can be concluded that CGA increases GLP-1 levels, but we further need to study the role of CGA and caffeine at molecular level to substantiate their neuroprotective mechanism.

Exploring the anti-inflammatory effect of tobacco components via α7 nicotinic acetylcholine receptor in brain and intestine using chronic rotenone mouse model of Parkinson's disease



Epidemiological studies have given strong evidence that smokers have 42% less chances of development of Parkinson's disease (PD). This can be associated with the agonistic activity of nicotine on alpha 7 nicotinic acetylcholine receptor (α-7 nAChR) in brain or enteric neurons. Recently presence of α-7nAChR on glial cells got immense attention due to its role in modulating neuroinflammation. Nicotine is a major alkaloid obtained from tobacco tree and is widely studied for its neuroprotective effect in PD, unfortunately clinical trial studies failed to show its neuroprotective activity. We think there might be some other constituent from tobacco which in combination with nicotine responsible for neuroprotection. Based on that we have chosen Anabasine due to its abundance and selective affinity towards α-7nAChR similar to Nicotine. In the present study we have proposed that combination of Nicotine and Anabasine may reduce inflammation both in the intestine and the brain. For testing this we will develop chronic rotenone mouse model of PD and will study alpha-synuclein aggregation in the intestine and brain. We also want to test if Nicotine alone or in combination with Anabasine will inhibit the alpha synuclein aggregation at enteric neuronal level and further reduce its propagation to the brain through the vagus nerve. Treating neuroinflammation at enteric neuronal level by α-7nAChRs agonists such as Nicotine and Anabasine might give us a unique opportunity to halt or slow the progression of PD pathology by reducing alpha synuclein aggregation and its progression from the enteric neurons to brain.

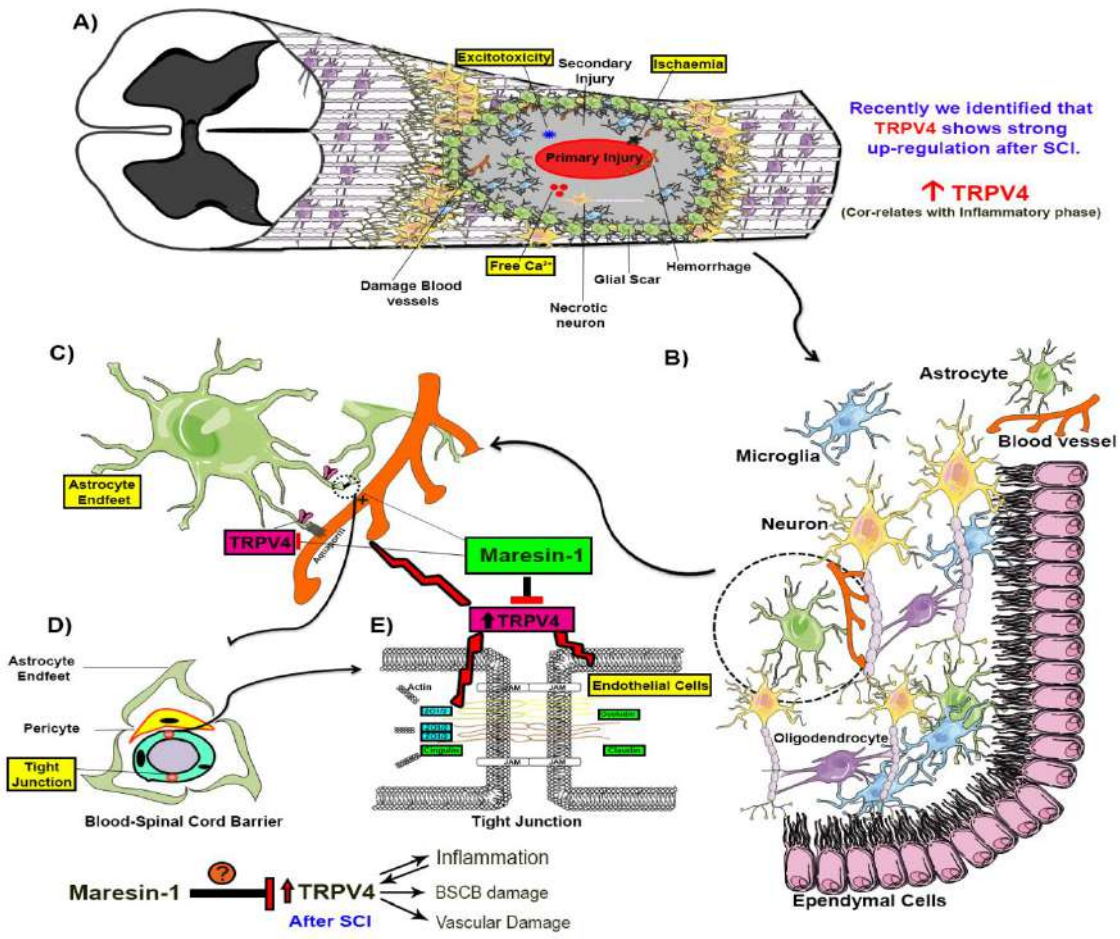
NF-κB mediated Inflammatory pathway and alpha synuclein aggregation

Targeting spinal cord injury-induced TRPV4 expression with specialized pro-resolving mediatorMaresin-1

Spinal Cord Injury (SCI) is a devastating condition causing either temporary or permanent disability. The pathology of SCI is multifaceted, involving major biological cascades (1-3). Inflammation is intense and most characterized response after SCI (1, 4, 5) initiating cascades of events including blood spinal cord barrier (BSCB) disruption, apoptosis, scarring (glial and fibrotic) and functional disability (1, 4, 5)

Recently for the first time, we reported the involvement of the TRPV4 channel in the pathology of SCI. By using several techniques/approaches (Two-photon microscopy, confocal microscopy, and TRPV4 KO mouse), we reported that increased expression of TRPV4 during the acute phase of SCI results in BSCB disruption, vascular destabilization, tissue damage and scarring

The current approach will be better than direct inhibition of TRPV4 by its antagonist for the following reasons i) Maresin-1 are SPM and potent anti-inflammatory agents, can work at low doses and have fast action (ii) they are metabolites of omega-3 fatty acid (iii) there is alternation in the SPM biosynthesis in the lesioned spinal cord which impedes with the inflammation resolution (iv) treatment with Maresin-1 will have a dual approach (maintaining the levels of SPM and inhibiting TRPV4). Thus, we reasoned that inhibiting TRPV4 with Maresin-1 will provide an innovative technological platform to develop new effective therapeutic agents for patients with SCI.



Countering Spinal Cord Injury-induced primary and secondary damage by targeting following cascade

- Endothelial cells /TJ integrity – BBB/BSCB disruption – Neuroinflammation
- Penumbral microvasculature - Angiogenesis – Neuroprotection
- Reduce Scarring – Glial and Fibrotic – Neuroregeneration

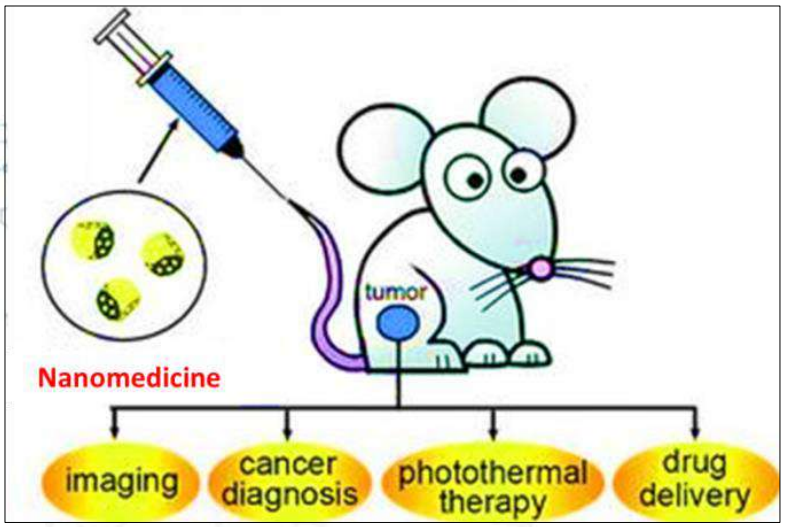
Neurovascular Communication – Neuronal Guidance – Neuronal Circuit repair

- Check patterning of axonal projections after SCI and other neurological disorders
- Study the cross-talk between the neurons and newly formed blood vessels in neurological disorder

Pharmaceutics

Development of novel polymeric nanomaterial for effective cytosolic delivery of anticancer bioactive

The focus of this research is towards the successful delivery of therapeutic agents in a controlled and targeted manner and the development of advanced delivery systems for a variety of applications. Projects ranging from fundamental science to industrially relevant applications are undertaken by Postdoc, Ph.D., and postgraduate students within the cluster. The research interests include the use of biodegradable polymers for the micro and nanoparticle delivery of drugs and proteins, particularly for cancer therapy. Specific examples of ongoing projects include the delivery of anticancer drugs and small interfering and microRNA. An overarching goal of his current research interests encompasses the development of novel polymeric nanomaterials for effective cytosolic delivery of anticancer bioactive. The research is also focused on designing a new generation of nanoparticles, which could identify the cancer cells and selectively deliver anticancer drugs and genes to inhibit the growth of cancer while sparing healthy tissues. His research work involves the applications of polymer chemistry, nanotechnology, molecular biology, pharmacokinetics/ pharmacodynamics, and imaging techniques. Tekade lab is also involved in investigating the anticancer activity and molecular mechanism of several nanoformulations against cancer cell lines.



Formulation Development of Injectable RNA interfering nanoparticle for targeted therapy of diabetic nephropathy

Diabetic nephropathy (DN) is chronic kidney disease with microvascular complications leads to renal dysfunction; podocytes effacement leads to proteinuria (albuminuria), glomerulosclerosis, and tubulointerstitial fibrosis. In this context, research is focused towards the formulation development of novel nanotherapy for the treatment of the DN bearing a cocktail of the gene therapeutic cargo and drug. For development of these podocytes targeted Nanotherapeutics, novel polymers are being synthesized by bioconjugation to form protonation active polymer. This novel polymeric bioconjugate was formulated in as nanoparticle loaded with genes and drugs. For the specific targeting purpose, those nanoparticles bear ligand that can recognize the site for binding to attain targeted delivery. It is hypothesized that prepared ligand-gated nanoparticle could easily phagocyte via take-up by cell, then endosome will be formed, and finally, polymeric nanoparticle undergoes proton sponge effect release the genetic material and drug. Further formulation evaluation is done for its physicochemical and biological properties. Cellular uptake studies would be performing via the in-vitro podocytes cell line model and induced diabetes mouse model.

Tripartite approach for the treatment of triple-negative breast cancer (TNBC) using graphene oxide wrapped polymeric nanoparticles:- The research interest of this cluster is to develop innovative strategies to tackle barriers associated with drug delivery. This research project involves the development of novel formulations for the treatment of cancer using nanotechnology-based platform, which consists of the development of polymeric nanoparticles (NPs) trenched with multiple approaches including hyperthermia and chemotherapy for effective and promising treatment of aggressive triple-negative breast cancer (TNBC). One of the components is also to establish an effective correlation between the various approaches and their individual effects on the treatment of TNBC. For this, we consider developing the anti-breast cancer formulation with higher in vitro and in vivo outcomes to render it liable for clinical trials and to explore the research area based on the use of RNAi mediated gene silencing as a novel and very effective approach to treating various forms of cancer. The proposed research methodology involves systemic and long-term solutions for the TNBC by employing triple punch therapy includes the delivery of chemotherapeutic drugs under the influence of induced photothermal effect and gene silencing.

NIR laser activatable Nanoplates for the treatment of resistant tumors

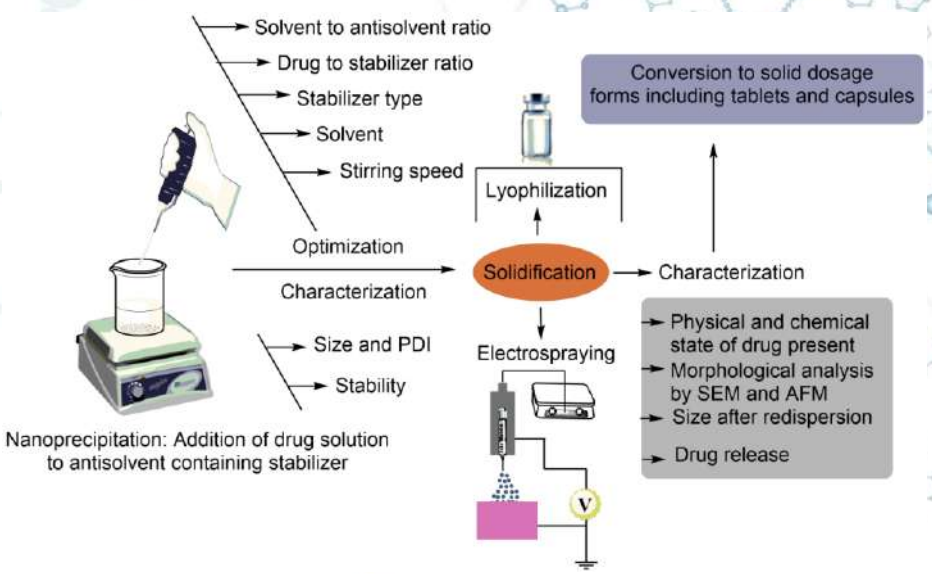
Despite accelerating research and huge scientific affords to find out the clinically appropriate solution for complete cure from cancer, it is still one of the deadliest diseases threatening the lives of humans across the world. Conventional drug chemotherapy is no longer an effective strategy, and a combinatorial treatment approach is primarily warranted. We, in the proposed research, aiming to combine treatment methods such as chemotherapy and photothermal therapy via in-house optimized and synthesized nanoshells as a multifunctional nano-delivery system with inherent photothermal potential. As one of the thrust areas of research Dr. Tekade's lab in NIPER-Ahmedabad is trying to develop a combination of chemo with photothermal hyperthermia therapy by formulating Nanoplates by green route using anticancer agents for the dual effect that will eliminate and reduce side effects as well as the toxicity profile associated with the existing therapies with improved selective and potency. It is proposed that the pulsatile behavior will serve as a better and effective option as well as an alternative to cure and prevent the regeneration of the tumor after removal from the surgery. The long-term goal is to develop nanoplate to serve as a combined drug carrier, the active photothermal system as well as the theragnostic platform.

NIR laser activatable Nanoseeds for the prevention of post-surgical relapse of the resectable tumor

In the past few years, several attempts have been made to detect as well as treat post-surgical relapse of cancer. But to date, no reliable therapeutic strategy has been devised for the prevention of post-surgical relapse. At the same time, only chemotherapy, radiotherapy, and surgical resection are the only treatment options in hand. We propose to formulate NIR-Laser activatable Gold-Nanoseeds for the prevention of post-surgical relapse of tumor, which will provide photo-chemo therapy (PCT), including chemotherapy, as well as photothermal therapy using the in-house optimized and developed nanoshell with high Laser-driven photothermal potency. The long-term goal is to develop a simple and radiation-free alternative for post-surgical interventions in breast and prostate cancer. One of the thurst research in the department focuses on developing chemo-photothermal therapy for the post-surgical treatment of cancer patients. This research aims to explore the potential of the biodegradable electrospun patch to encompass both the photothermal agent reduced graphene oxide and a chemotherapeutic agent and to act as a long term implant within the body. We are also investigating and optimizing the photothermal efficacy of reduced graphene oxide and the parameters of significance in photothermal therapy like the laser power, duration of exposure etc. This platform is expected to exhibit the pulsatile release of the chemotherapeutic agent in response to NIR irradiation, which will act synergistically with the thermal effect to increase the sensitivity of the cancer cells to the drug. It can prevent not just the local recurrence, but the systemically absorbed drug can also prevent the metastatic progression of the disease. Successful application of this system in vivo can lead to the emergence of a new platform for chemo-photothermal therapy in cancer. This research involves the combined application of polymer science, material science, nanotechnology, pharmacokinetics/pharmacodynamics, molecular biology, imaging techniques, and analytical science.

Electrospraying Vs Lyophilization: Impact of on Solid-state properties of drug Nanosuspension

Poor aqueous solubility is the leading hurdle for formulation scientists working on oral delivery of drugs and has led to use of novel formulation technologies. Size reduction in nano range can enhance the dissolution rate of the poorly water-soluble drugs and increase oral bioavailability. Currently used methods like “top-down” or “bottom-up” approaches, decrease particle size but leads to enormous surface area and drastically amplified Gibbs free energy making it difficult to retain the nanosize of fresh precipitates due to physical (aggregation/particle fusion) and/or chemical instability (chemical reactivity of drug during storage) upon storage. We are at present involved in studying the complex interplay between stabilizers and cryoprotectant used during lyophilisation of nanosuspension to obtain nanocrystal. We are also investigating solid state properties of nanocrystals obtained using lyophilization and those obtained using electrospinning to evaluate their impact on bulk level properties of nanocrystals. It is expected that this will help us in identifying markers of instability at earlier stages and reduce the overall time required for stability assessment of final dosage form (Recent patents on nanotechnology, 2016).



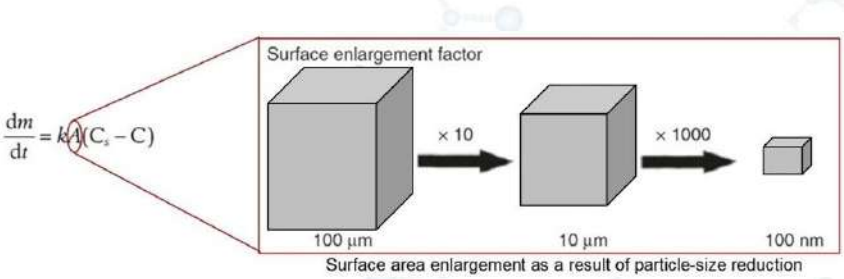
Formulating the poorly soluble drugs in conventional dosage forms for bioenhancement

The utilization of high-throughput screening (HTS) strategy has led to an increased number of highly efficacious therapeutic compounds. However, many of these compounds are poorly water soluble, creating a new challenge for formulation scientists. While it might be possible to overcome poor solubility by simply increasing the drug dose, this approach is not only wasteful, but often results in high variability and potential toxicity. Therefore, it is vital to work on various approaches to improve drug solubility.

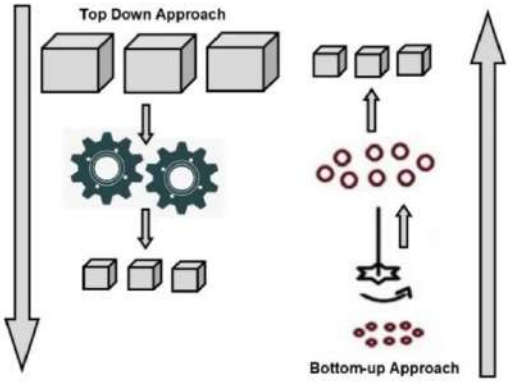
Nanocrystal: A viable and effective strategy for imparting rapid dissolution rate to poorly soluble therapeutic compounds. For a drug to be absorbed into systemic circulation, it must first be dissolved in the fluid at the site of absorption. This dissolution relies on surface area of drug particles (as per Noyes–Whitney equation given below) and which in turn depends on their particle size.

Nanocrystal technology is a practical and commercially viable approach for enhancing the surface area available for dissolution. We work on top-down and bottom-up approaches (Figure 2) for the generation of nanocrystals of poorly soluble drugs. As the size reduction of the crystal increases their surface free energy and therefore this may lead to the formation of agglomeration, which sometimes may be larger than the input drug and hence as a result, it may lead to a decrease in dissolution rate.

Stabilization of this formed nanocrystals can be achieved by judicious incorporation of surface stabilizers, which have a very high affinity to the crystal surface. We explore various kinds of nanocrystal stabilizers that are already approved for human consumption, where they serve a different functional role in other dosage forms. During the evaluation, we also consider the amount and route of administration for such stabilizers.



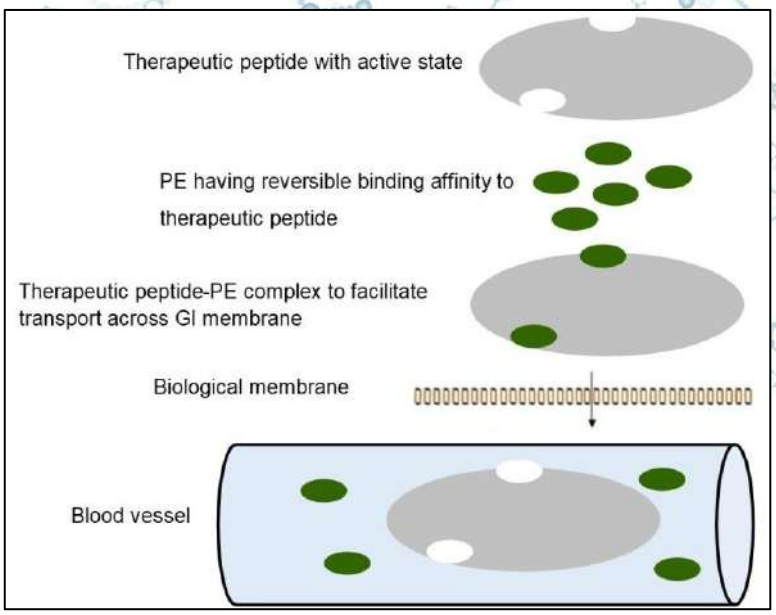
Surface area enlargement as a result of particle-size reduction



Exploiting the oral route for delivery of macromolecular therapeutics using penetration enhancer(s)

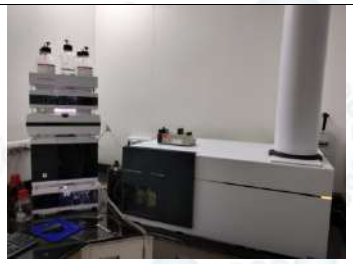
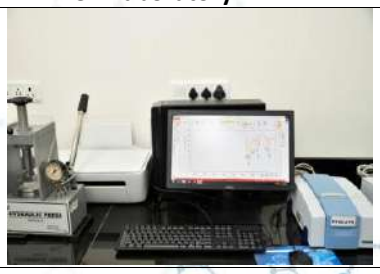
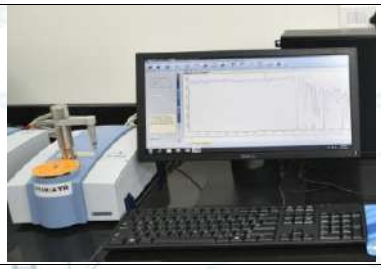
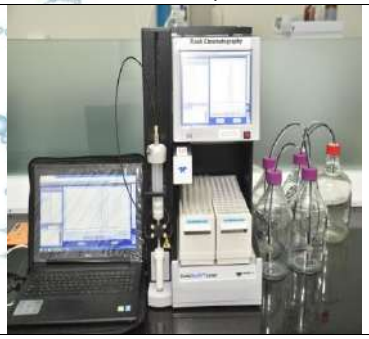
The trend of drug discovery and development is increasing in favor of macromolecule based therapeutics such as proteins and peptides. The oral route always remains the first choice for drug administration due to high patient compliance. However, inherent limitations of these macromolecule therapeutics like susceptibility to pH and gastric/small intestinal enzymes, as well as low intestinal epithelial membrane permeability, limit their oral administration.

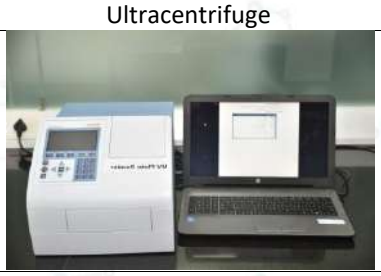
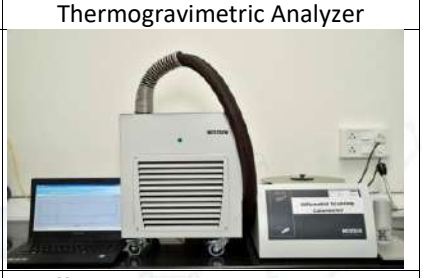
Now it has been well documented in the literature that penetration enhancer (PE) could enhance the oral absorption of these macromolecules, specifically smaller peptides. Our lab explores various kinds of PE for improving the oral delivery of peptides, which are currently administered as injectables for treatments of multiple chronic diseases like type 2 diabetes mellitus, osteoporosis, etc. It has been postulated that increased lipophilicity of these therapeutic peptides due to reversible binding with PE is responsible for increased membrane permeability. Further, binding of PE with the peptide may also be providing protection against the gastrointestinal (GI) enzymatic degradation.



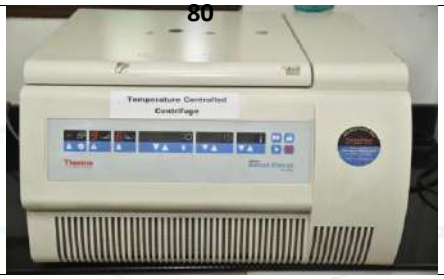
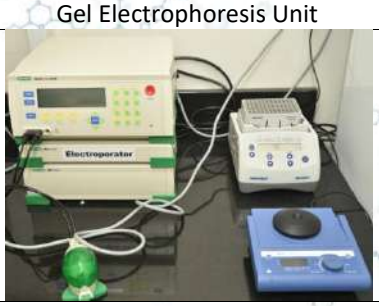
Central Instrument Facility

National Institute of Pharmaceutical Education and Research (NIPER)- Ahmedabad provides the facilities of Research Laboratories with sophisticated instruments to fulfill the departmental needs based on the research programs of M.S. (Pharm.) and Ph.D. students. The Central Instrumentation Facilities are upgraded continuously as per the latest advancements in research, developments, and technologies.

CIF Laboratory		
		
Q-TOF-LCMS	FTIR	ATR
		
Gas Chromatography	HPLC-UV/RI	Gel Permeation Chromatography
		
HPLC-PDA/FLD	Flash chromatography	Semipreparative HPLC

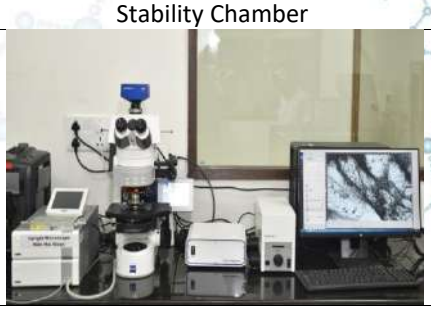
CIF Laboratory		
		
Porosity meter	Ultracentrifuge	Thermogravimetric Analyzer
		
Multimode Reader	UV Plate Reader	Differential Scanning Calorimeter
		
Polarimeter	UV-VIS Spectrophotometer	Microbalance
		
Lyophalizers	FESEM_CRYO SIGMA 300	NMR

Chemical Biology Laboratory		
		
Gel Doc System	Inverted Microscope	CO_2 Incubators

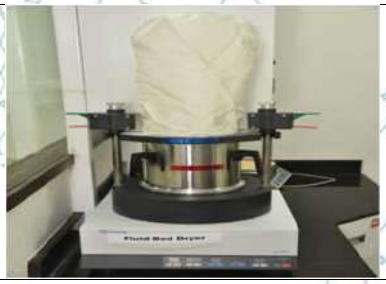
Chemical Biology Laboratory		
		
Nanodrop	Real-Time PCR	Bioanalyzer
		
Rotary Evaporator	Temperature Controlled Centrifuge	Parallel Synthesizer
		
Deep Freezer (-80°C)	Rotary Shaker	Biosafety Cabinet (Class II)
		
Cryo Can	Western Blot Unit	Gel Electrophoresis Unit
		
Melting Point Apparatus	Fumehood	Electroporator

Chemical Biology Laboratory		
		
Confocal Microscope: Leica TCS SP8	Bio-Rad S3eTM Cell Sorter	Hypoxia Chamber

Regulatory Laboratory		
		
Passive Avoidance Apparatus	Refrigerated Centrifuge	Rota Rod

Drug Discovery and Delivery Laboratory		
		
Rapid Mixer Granulator	Autocoater	Potentiostat-Galvanostat
		
Stability Chamber	Mastersizer	Zetasizer
		
Hot stage microscope	Rheometer	Magneto Meter

Drug Discovery and Delivery Laboratory



Fluid Bed Dryer

Texture Analyzer

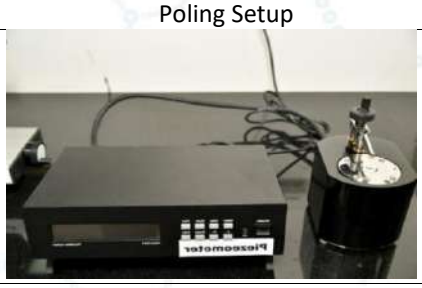
Rotary Compression Machine

Disintegration Apparatus

Poling Setup

Universal Testing Machine

Electron Spinning Setup



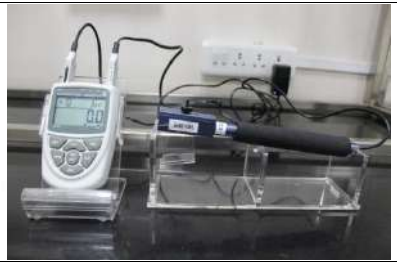
Piezometer

Probe Sonicator

Hot Plate Analgesiometer

IVC Cages

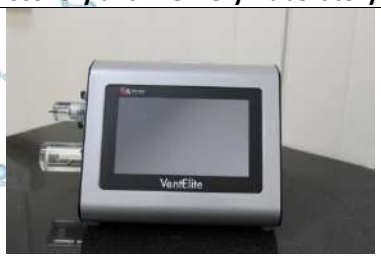
Metabolic Cages



Electronic Von-Frey

Hargreaves Apparatus

Surgical Microscope

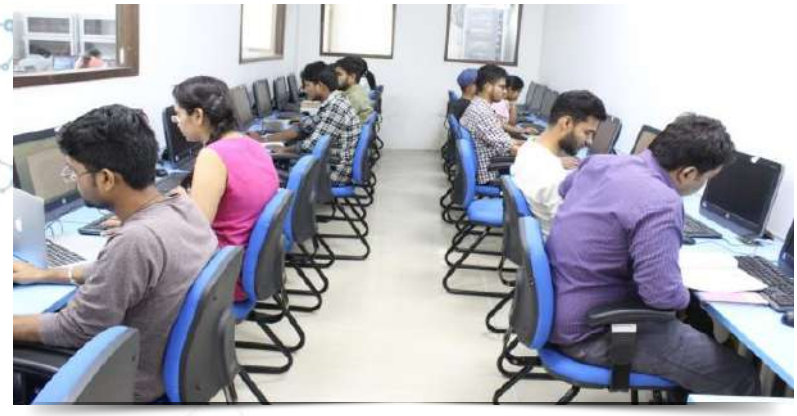
Drug Discovery and Delivery Laboratory		
		
Stroke Apparatus	Animal Ventilator	Sterotaxic Instrument
		
Cryostat	Small Animal Anesthetizer	Deep Freezer (-80^{o}C)
		
Hot-cold Plate Analgesiometer	Activity wheels	Respirometer
		
Operant conditioning chamber	Semi-automatic bioanalyzer	Small animal in vivo-imaging system
		
Micro-dialysis	Probe sonicator	Isoflurane anesthesia system

Drug Discovery and Delivery Laboratory		
		
FDM 3D printer	NIR_LASER Diode	Photostability chamber
		
	Sotax Type-IV dissolution Apparatus	





Computer Lab



NIPER-Ahmedabad has a central computer facility for the students and staff to avail a high-speed Internet facility. A dedicated Internet leased line with 10 Mbps accessing speed has been installed to provide uninterrupted Internet service to all students, faculty, and staff. The adequate security mechanism is implemented to protect and monitor against viruses, worms, phishing, and hacking incidents. All the computers are connected through Local Area Network (LAN) using 1 GB Dlink to manage the switch. HP ProLiant Server is installed to work as an application server to host applications like Koha Library Management Software, ERPnext, TallyERP, etc. These applications can be easily accessed by students, faculty, and staff via LAN. The Computer Centre is also equipped with various open-source operating systems like Linux Centos 7, Ubuntu, etc. along with licensed Operating Systems like Microsoft Windows 8 and Windows 10. Software including SPSS, Schrodinger (QSAR and Molecular Modelling), Microsoft Office 2013, etc. is available for use. All faculty rooms, seminar rooms, classrooms, Library, and laboratories equipped with a Wi-Fi facility. Apart from this, all classrooms, seminar rooms, and the auditorium are equipped with Projector, TV, video conference facility, etc. for the conducive learning environment.

Library

NIPER-A library comprises more than sixteen hundred books, 505 Theses/Dissertations, 199 Journal Bound Volumes, 32 Print journals (National & international), and 153 E-Journals from Publishers like Science direct, ACS, Nature, Springer, Taylor & Francis. encompassing all disciplines of pharmaceutical sciences and technology viz. analytical chemistry, medicinal chemistry,pharmacology, pharmaceutics, natural products, biotechnology, and medical devices. It has ample collection of e-books, huge reading hall, photocopy facility, many Ph.D. & M.S. Pharm. thesis copies, and NIPER workshop & conference Reports. The Library is efficiently equipped with open source Library Management Software - KOHA. An Online Public Access Catalog (often abbreviated as OPAC or only Library Catalog) is an online database of materials held by NIPER Ahmedabad library. It is a computerized library catalog available to the NIPER-A use. OPAC is accessible over the Local Area Network to the users. Users search a library catalog principally to locate books and other material physically located at a library. Apart from KOHA we also have digital Library Software (Greenstone Digital Library (GSDL) for Creating in house Institutional repository (Research Publication from NIPER-A, Dissertation theses of pass out Student) to allow the online Access to the Student from NIPER-Ahmedabad. Our Library also has Turnitin software to check submitted documents against its database and the content of other websites to identify plagiarism. Library resources and facilities being updated from time to time as per the requirements of the students as well as faculty recommendations. The Library has elaborated arrangements for the conservation and preservation of books, journals, and thesis for posterity. The Library is also well equipped with a good collection of motivational books by Robin Sharma, textbooks from renowned authors including classic literature from the likes of Munshi Premchand, etc. Further, to generate curiosity and to inculcate reading habits in students, it is planned to equip Library with much more fiction, scientific novels, biographies, autobiographies, story books also. SciFinder (Chemical Abstracts Service, American Chemical Society, USA) is the latest addition to the cutting edge research support facility of NIPER-Ahmedabad. Notably, SciFinder is a convenient and reliable source for literature review, patents, invention to aid in cutting edge novel research. It has now become a core research tool for chemistry, biochemistry, Chemical engineering, materials science, nanotechnology, and other science and engineering disciplines. The SciFinder is easy-to-use and enables the research process to be more creative and productive

Hostel

The Institute has a separate hostel for boys and girls, which are in the nearby locality. The transport facility is provided for the students residing in the hostel. The hostel rooms are spacious and well-furnished. Each student is provided with basic furniture, including a bed, chair, study table, and a cupboard at the beginning of the academic year. The hostels have sports and other recreational facilities, such as gym, a common area for interaction, playing and festival celebration, etc. All the hostel rooms have internet connectivity round the clock. The hostels are under 24 x 7 CCTV surveillance. Apart from this day and night security persons are engaged. Hostel mess serves nutritious food throughout the year. Hygiene and cleanliness within the hostel premises are well taken care of by providing round the clock housekeeping services and breakdown maintenance services.



Canteen

The canteen is located on the Institute campus, which provides a variety of hygienic and healthy food, snacks and beverages, etc. Keeping in view the requirements of research students, the canteen remains open until extended hours as well as during weekends. We at NIPER-Ahmedabad believe that research ideas are germinated at places like canteen where students can openly interact and discuss their prepositions. Canteen has a large well-covered shaded sitting area, where the students carry out the off-classroom brain-storming sessions on their innovative ideas. It is also a place for students to celebrate fun-filled events like laboratory parties, birthday celebrations, marriage anniversaries, awards and successes, etc.



Sports Complex

The sports complex was established at NIPER-A in September 2017. The sports complex includes badminton courts, volleyball court, basketball court, and lawn tennis court. The sports complex is equipped with floodlights to play in evening and night. Our students have used these facilities to sharpen their skills in these sports.

Sports Complex




Recreation

Students of NIPER Ahmedabad participate in a variety of indoor games, outdoor games, and gym activities. Instead of confining a student to research and classroom studies, such recreational activities are primarily encouraged by NIPER-Ahmedabad to promote an all-round personality development of a student.


Animal House

Gymnasium

"Healthy mind resides in a healthy body" is a much-clichéd saying. Students participating in sports are more likely to succeed in the classroom. A good physical education program plays a vital role in the all-round development of students. It is an integral part of the total education of any student and is closely related to skill acquisition in other areas. NIPER-Ahmedabad was having an agreement with Ekalavya Sports Academy, Ahmedabad, for using its facilities. After shifting to a new campus at Gandhinagar, a new Gymnasium facility is currently being installed for all the students at the hostel premises.



First BoG Meeting Held At NIPER-A

On 16th April 2019, the First BOG meeting held at NIPER-A chaired by Shri Ketan Patel, Chairman BOG, and attended by other esteemed BOG members. And the release of NIPER-A Annual Report 2018-19 by Shri Ketan Patel, Chairman BOG, and other esteemed BOG members.

Second Board Of Governors (BoG) Meeting

On 3rd July 2019, the Second Board of Governors (BoG) meeting held at NIPER-A chaired by Shri Ketan Patel, Chairman BoG, and attended by other esteemed Bog members.

3rd Board of Governors (BoG) meeting

Third Board of Governors (BoG) meeting held at NIPER-A on 13th September 2019 chaired by Shri Ketan Patel, Chairman BoG, and attended by other esteemed Bog members.

Fourth Board of Governors (BoG) meeting held at NIPER-A

Fourth Board of Governors (BoG) meeting held at NIPER-A on 19th December 2019 chaired by Shri Ketan Patel, Chairman BoG, and attended by other esteemed BoG members.

Fifth Board of Governors (BoG) meeting held at NIPER-A

Fifth Board of Governors (BoG) meeting held at NIPER-A on 14th March, 2020 chaired by Shri Ketan Patel, Chairman BoG, and attended by other esteemed BoG members.

Second Senate meeting held at NIPER-A

On 3rd February 2020, Second Senate meeting held at NIPER-A chaired by Prof. Kiran Kalia, Chairman Senate and attended by Prof. Y.K Gupta, President, AIIMS -Bhopal, Prof. Vinita Kalra, HIMS, Dehradun and other esteemed members.

First JCC Meeting for conducting NIPER JEE- 2020

On 7th February 2020, NIPER - A hosted First JCC Meeting for conducting NIPER JEE- 2020. Dr. S.J.S Flora, Director, NIPER, Raebareli I/C Director, NIPER, SAS Nagar, and other members attended the meeting.



Academic Planning and Development Committee meeting

On 29th January 2020, First Academic Planning and Development Committee (APDC) meeting held at NIPER-A chaired by Dr. V Ravichandiran, Chairman APDC, and attended by other esteemed members.


Finance committee meeting

On 24th May 2019, Finance Committee Meeting held at NIPER - A, chaired by Prof. Kiran Kalia, Chairman Finance Committee.

International Conference On Neurological Disorders & Therapeutics-2019 (ICNDT-2019)

NIPER-Ahmedabad organized the International Conference on Neurological Disorders and Therapeutics during 24-26 October 2019 at Gandhinagar, Gujarat, India. Shri Nitinbhai Patel, Deputy Chief Minister & Minister of Health & Family Welfare in Government of Gujarat, was the Chief Guest in the event. Shri Mansukh Mandavia, Union Minister of State of Chemicals & Fertilizers, was the Guest of Honour. Dr. Ketan Patel, Chairman, Board of Governance, NIPER-A & Managing Director of Troikaa Pharmaceuticals, were among dignitaries present in the event. Shri Mandaviya emphasized on exploring the use of Ayurveda and natural products for research. He also stressed getting patent for India biotech for Indians scientists At ICNDT - 2019. Several eminent scientists, clinicians from India, USA, Japan, Denmark, Germany, Malaysia, Italy, participated and shared their knowledge through talks on various topics related to fundamental, clinical, and applied neuroscience.

International Conference On Neurological Disorders & Therapeutics-2019 (ICNDT-2019)

The purpose of this conference was to explore and encourage approaches to stimulate new ideas for research and treatment that will be beneficial across the spectrum of neurological disorders. The aim was to create cross-fertilization between basic neuroscientists and clinical neurologists. They rarely see each other and get people thinking about how both can help society parse by contributing to a common aim of treating different neurological disorders effectively. The conference was intended to foster the cross-disciplinary exchange of ideas and expertise from researchers, public health professionals, scientists, industry, and scholars to exchange ideas of novel research and technologies in circumventing different unexplored mechanisms of neuro-protection. The young neuroscientist from renowned Indian institutes (NIMHANS Bangalore, IIT Gandhinagar, Shiv Nadar University, Amity University, SKNCP Pune, NEHU Shillong, Manipal University, NMIMS-Hyderabad, Amrita University) showcased their research at ICNDT-2019. After the Scientific session, the scientific posters were displayed in the foyer by ICNDT- 2019 participants, and renowned scientists evaluated it. Cultural Program was also organized at ICNDT-2019 to give a cultural flavor of Gujarat to international participants. On the last day of ICNDT-2019, the Scientific session was conducted, followed by Valedictory Function and prize distribution for the posters. Lastly, a vote of thanks was given by Chairman Prof. Kiran Kalia and Organising secretary Dr. Pallab Bhattacharya of ICNDT-2019.

Dr. P D Vaghela, Shri Rajneesh Tingal, and Dr. Ketan Patel visited NIPER-A

Dr. P D Vaghela, Secretary, Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, GoI, Shri Rajneesh Tingal, Joint Secretary, Department of Pharmaceuticals, Min of C& F, GoI and Dr. Ketan Patel, Chairman BoG, NIPER - A visited NIPER-Ahmedabad campus on Friday, August 16th, 2019. The Secretary, DoP, also visited various labs of NIPER-A and interacted with the Faculty members and students.

Shri Rajneesh Tingal Visited NIPER - A and Inaugurated the FE- SEM Instrument Facility of the Institute

On 23rd July 2019, Shri Rajneesh Tingal, Joint Secretary, Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers visited NIPER - Ahmedabad and inaugurated the FE- SEM Instrument facility of the Institute.







Dr. Renu Swarup, Secretary DBT visited NIPER – Ahmedabad

On 18th January 2020, Dr. Renu Swarup, Secretary DBT, visited various facilities of NIPER – A and interacted with the Faculties NIPER Ahmedabad.

Visit by Mr. Kenneth Giacin, CEO of Mononuclear Therapeutics, Hong Kong and Chairman StemCyte with his team

On 2nd February 2020, Mr. Kenneth Giacin, CEO of Mononuclear Therapeutics, Hong Kong, and Chairman StemCyte with his team, visited various facilities of NIPER-A and discussed the possibilities of collaboration.

Dr. V. Ravichandiran, Director NIPER -Kolkata visited NIPER – A

On 29th January 2020, Dr. V. Ravichandiran, Director NIPER-Kolkata, visited various facilities of NIPER - Ahmedabad.

Dr. S.J.S Flora visited NIPER – A

On 7th February 2020, Dr. S.J.S Flora, Director, NIPER, Raebareli, and I/C Director, NIPER, SAS Nagar, visited various facilities of NIPER - Ahmedabad

Prof. Kiran Kalia, Director NIPER – A visited University of Kelaniya, Sri Lanka

On 21-26th August, 2019, Prof. Kiran Kalia, Director NIPER - Ahmedabad, visited Sri Lanka for a collaborative project between NIPER-A from India and the University of Kelaniya from Sri Lanka.

Prof. Alok Prakash Mittal, Dr. Shubhada Chiplunkar and Dr. Amitava Das visited NIPER -A

On 3rd July 2019, Prof. Alok Prakash Mittal, Dr. Shubhada Chiplunkar, and Dr. Amitava Das members of Board of Governors (BoG) NIPER - A visited us. They visited various labs and interacted with the Faculty members and students of NIPER-Ahmedabad.

Dr. Suman Govil visited NIPER-A

On 27th May 2019, Dr. Suman Govil, Adviser at the Department of Biotechnology, Govt. of India, visited us. She visited various labs of NIPER -A and interacted with the Faculty and students of NIPER -A.






Dr Poonam Kakkar visited NIPER-A

On 29th May 2019, Dr. Poonam Kakkar, Chief Scientist, CSIR-Indian Institute of Toxicology Research, Lucknow visited NIPER - Ahmedabad. She visited various facilities of NIPER -A and interacted with the Faculty and students.


Prof. Kiran Kalia, Director NIPER - A attended the 5th Visitor's Awards, 2019

On 17th December 2019, Prof. Kiran Kalia, Director NIPER - A attended the 5th Visitor's Awards, 2019 At Rashtrapati Bhavan, New Delhi

Prof. Kiran Kalia, Director NIPER -A participated in the live panel discussion on COVID -19 outbreak in India in Swaraj Express News Channel

Link below:

https://m.youtube.com/watch?feature=youtu.be&v=7zgJxg-AgbI

Interactive session by Dr. Ajay Jha (ACS Development Editor, ACS Omega)

On 7th February 2020, An interactive session between Dr. Ajay Jha (ACS Development Editor, ACS Omega), Faculty and Students of NIPER A was held at NIPER-A. The session covered topics on ACS In India, ethics and plagiarism and different services at ACS to strengthen skills of young researchers.

Guest lecture by Dr Santosh Kumar Behera

On 10th February 2020, Students and Faculty of NIPER-A attended a guest lecture delivered by Dr. Santosh Kumar Behera, Programme Officer, ICMR-RMRC, Bhubaneswar on "Application of Bioinformatics In Pharmaceutical Science Research And Development: Today's Alternative for Tomorrow's therapeutics"

Guest lecture delivered by Dr. Yogesh Shouche

On 11th February 2020, Students and Faculty of NIPER-A attended a guest lecture delivered by Dr. Yogesh Shouche, Principal Investigator of National Centre for Microbial Resource at the National Centre for Cell Science, Pune on "Human Microbiome in Health and Diseases"

Talk by Dr. Rajesh Sonti Postdoctoral Fellow at EPFL SB IPHYS LIFMET, Lausanne

On 18th December 2019, Dr. Rajesh Sonti Postdoctoral Fellow at EPFL SB IPHYS LIFMET, Lausanne delivered a talk on "Conformational analysis of peptide toxins and protein-drug interactions in solution by NMR spectroscopy" at NIPER- A.

Talk on PLOGGing – Integrated Approach to resolve multiple contemporary social issues, An initiative to litter-free India

On 28th November, 2019, Earth Kids Foundation CEO Mr. Tarun Kumar gave a talk on "PLOGGing – Integrated Approach to resolve multiple contemporary social issues, An initiative to litter-free India" at NIPER- A

Talk on "Career Opportunities in Clinical Research for pharmacy students"

On 2nd November, 2019, Mr. Kapil Jhawar, Associate Clinical Project Management Director, Project Leadership, IQVIA delivered an interactive talk on "Career Opportunities in Clinical Research for pharmacy students" at NIPER- A

Talk on interview skills

Mr. Arun Choudhary, Training manager from Danone Nutricia, Mumbai India, gave a talk on interview skills. The speech was very informative in terms of dos & don't s the students should follow while appearing for an interview. He also suggested the types of crucial questions, dressing etiquettes, and critical elements for a successful interview.

Invited lecture by Ms. Rohini Chawla

On 21st January 2020, NIPER-A organized a lecture by Ms. Rohini Chawla from SIDBI, IIT Kanpur briefing the students about BIG BIRAC DBT and other funding sources for start-up Entrepreneurship.

The workshop series supported by AICTE-ATAL Academy

A workshop on Hands-on Training of advanced analytical techniques Department of Pharmaceutical Analysis,

NIPER-Ahmedabad had organized a workshop on "Hands-on Training of Advanced Analytical Techniques" from September 3-7, 2019. The workshop was supported by AICTE-ATAL Academy. In this workshop, around fifty enthusiastic participants came from in and around the Gujarat state. Participants from Various organizations were namely the Sinhgad Institute of Pharmacy, Pune Smt. Kashibai Navale College of Pharmacy, Pune; Savitribai Phule Pune University, Pune; NIRMA University, Ahmedabad; Geetanjali University, Udaipur, etc. They were introduced to different advanced analytical techniques and their applications in pharmaceuticals. During the training session, they were given hands-on experience in analysis using HPLC, LCMS-Q-TOF, NMR, FE-SEM, and Rheometer instruments. The response from participants was phenomenal and received excellent feedback.

A workshop on Mammalian cell culture, cell-based staining, imaging & molecular

Department of Biotechnology, NIPER Ahmedabad, had organized a 5-days workshop on "Mammalian cell culture, Cell-based staining, Imaging, and Molecular Expression Techniques, from 16th Sept 2019 to 20th Sept 2019. AICTE-ATAL Academy supported the workshop. Enthusiastic participants from different states became a part of this workshop. The workshop was based on the theoretical as well practical knowledge on cell-culture techniques like sub-culturing of cell lines, cell migration assay, cell proliferation assay, introduction to various imaging techniques, with hands-on training and troubleshooting of a confocal microscope. They were also being exposed to the principles of flow cytometry, followed by a practical session covering cell-cycle profile analysis, and RNA isolation, cDNA synthesis, and subsequently, qPCR for gene expression analysis. The response from participants was outstanding, and we also received excellent feedback.






Workshop on Drug Discovery to Drug Development: Bridging Gaps between Academia

A 5-day AICTE sponsored workshop on “Drug Discovery to Drug Development: Bridging Gaps between Academia and Industry” was conducted by the National Institute of Pharmaceutical Education and Research, Ahmedabad (NIPER-A) as a host institute dated from 11 - 15th November 2019 in which 53 participants across India participated. The inauguration was chaired by Dr. H G Koshia, Commissioner, Food and Drug Control Administration, Gujarat; Dr. Parva Purohit, Sr VP R&D India at Kashiv Biosciences, Ahmedabad, Gujarat; Prof. Kiran Kalia, Director, NIPER-Ahmedabad; Dr. Ravi Shah, faculty, department of pharmaceutical analysis, NIPER-Ahmedabad; and Dr. Dinesh Kumar, department of medicinal chemistry, NIPER-Ahmedabad. The inauguration ceremony started with the lamp lighting and welcome address by Prof. Kiran Kalia, Director of NIPER-Ahmedabad, followed by an inaugural talk, by Dr. H G Koshia.

Post-inauguration ceremony, Mr. Mohsin R. Arabiani delivered lectures on “Converting research into the IP”, “Identifying the grey area of research,” and “Role of IP in Pharmaceutical Industry”. This was followed by an interactive session between the participants and the speaker. Dr. Mandar Bodas, Solutions Consultant, Elsevier, Bengaluru delivered talks focusing on various aspects of molecular interaction and drug activity. A subsequent session involves informative lectures on “Drug Safety: CYP and Herg and Toxicophores”. This is followed by a hands-on practice program on Scifinder Database conducted by Dr. Satyasheel Sharma. Mr. Himanshu Verma, Lead - CEO Formulation, Dr. Reddy's Laboratories, Hyderabad, gave a lecture on topics entitled “Preformulation and generic drug development – Elements involved” and “Generic drug development – QbD approach”. This was followed by a descriptive session involving the topic “Case Study – Design for Six Sigma –Generic product development”.

Workshop on Drug Discovery to Drug Development: Bridging Gaps between Academia

Dr. Dinesh Kumar, Assistant Professor, Department of Medicinal Chemistry, NIPER-A, delivered a lecture on “Application of green chemistry principles in drug discovery”. This was followed by a talk on “Peptide Nucleic Acid (PNA): Drug discovery and beyond” by Dr. Bichismita Sahu, Assistant Professor, Department of Medicinal Chemistry, NIPER-A. The 3rd lecture of the day was delivered by Dr. Alok Jain, Assistant Professor, Department of Biotechnology, NIPER-A on “Application of in-silico tools in drug design and optimization”. This was followed by Amit Shard, Assistant Professor, Department of Medicinal Chemistry, at NIPER-A, who delivered a lecture on “Odyssey from table to tablet & new Rx in medicinal chemistry”. Ch Arpitha, Associate Director, Dr. Reddy's Laboratories, Hyderabad delivered lectures on “Significance of DMF filing and types of DMFs” and “What is GDUFA and its significance”. The subsequent session included an address on “How to set specifications for the drug substance and impurities”.

A Workshop on Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution

A 5-day AICTE sponsored workshop on “Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution” was conducted by the National Institute of Pharmaceutical Education and Research, Ahmedabad (NIPER-A) as a host institute from 21- 25 January 2020 in which 56 participants across the country participated. The inauguration was chaired by Dr. Vadi Bhat, Country Biopharma Business Development Manager, Agilent Technologies, Prof. Kiran Kalia, Director, NIPER-Ahmedabad, Dr. Pinaki Sengupta, faculty, department of pharmaceutical analysis, NIPER-Ahmedabad, Dr. Ravi Shah, faculty, department of pharmaceutical analysis, NIPER-Ahmedabad, and Ms. Rajeswari Rathod, Senior Scientific Officer, NIPER-Ahmedabad. The inauguration ceremony started with the lamp lighting and welcome address by Prof. Kiran Kalia, Director of NIPER-Ahmedabad, followed by an inaugural talk by Dr. Vadi Bhat on ‘’Bioanalysis of intact protein and biosimilar products’’.

The scientific session continued with the talk of Dr. Ravi Shah on ‘’Need for in-vivo in-vitro correlation for Drug bioavailability’’ followed by Dr. Pinaki Sengupta, who delivered a speech on ‘’Bioanalysis and method validation’’. On day 2, Dr. Ghanshyam Patel from Zydus Cadila gave a talk on ‘’Bioequivalence- An overview of Statistical concepts’’ followed by Ms. Maitri Sanghavi from Zydus Cadila who delivered a talk on ‘’IVIVC & Application of physiology-based biopharmaceutics modeling in drug product development’’. Day 3 started with the discussion of Dr. Bhupendrasinh Vaghela from Xylopia on ‘’Dissolution Method development for Generic formulations’’ followed by Mr. Suhas Yewale from Sotax who delivered the talk on ‘Dissolution Testing for Novel Drug Formulations’’. The day concluded with the practical session on the USP-IV dissolution apparatus by Mr. R S Pal from Sotax. On day 4, Mr. Darshan Engineer from Phenomenex delivered a talk on ‘’Sample preparation techniques for bioanalysis’’ followed by the talk of Mr. Arun Kumar P from Agilent Technologies on ‘’Insight to the outcome of bioanalysis’’. Thereafter, Dr. Pinaki Sengupta conducted a practical session on bioanalytical sample preparation techniques.

A Workshop on Bioanalysis and Correlation of In-vivo Pharmacokinetic with its In-vitro Dissolution

Day 5 started with the talk of Dr. Manish Sharma from Veeda Clinical Research on ''BA/BE study design: Practical approach''. After that, Dr. Chirag Patel from Veeda Clinical Research delivered a talk on ''Practical aspects of bioanalytical method''. The workshop ended with a practical session on dissolution apparatus I & II conducted by Dr. Ravi Shah, followed by valedictory function.

A Workshop On Application Of LC-MS/MS Based Dereplication Tool In Natural Products Research

Department of Natural Products, NIPER-Ahmedabad, had organized a workshop on "Application of LC-MS/MS Based Dereplication Tool in Natural Products Research" from August 2-3, 2019. The workshop had full participation from various organizations, namely SRISTI, Gandhinagar, GEER Foundation, Gandhinagar, NIRMA University, Ahmedabad, LMCP, Ahmedabad, Parul University, Vadodara; Uttarakhand Ayurved University, Haridwar etc. The participants were introduced to dereplication techniques and their applications in Natural product research. During the training session, they were given hands-on experience on a database search, LC-MS data analysis, and demonstration of HPLC-PDA and LC-HRMS instrumentation. The response from participants was phenomenal and received excellent feedback.

Leadership lecture and Panel discussion on 'Developing Roadmap for Fostering India's Medtech Sector

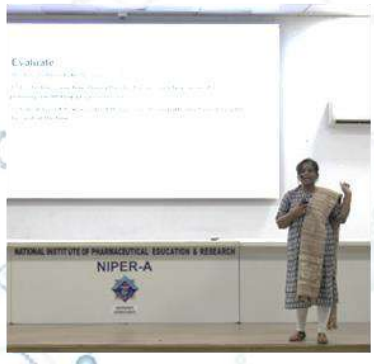
On 11th December 2019, NIPER – AHMEDABAD organized a Leadership lecture and Panel discussion on 'Developing Roadmap for Fostering India's Medtech Sector'. The Medical Device sector under the Make-in-India initiative of the Government has been recognized as the sunshine sector with immense growth and potential. Medical Devices play a role not only in screening, diagnosing, and treating patients through high-end devices and equipment but also in preventing diseases that are irreversible. With technological advancements in India, the role of medical devices is now expanding to improve the quality of care across each stage of the healthcare continuum. In a major fillip, the Government's decision to set up a National Medical Devices Promotion Council under the Department of Industrial Policy and Promotion (DIPP) and the Department of Pharmaceuticals initiative to setup Medical device parks with a dedicated ecosystem will further boost domestic manufacturing and exports, fulfilling Prime Minister Modi's dream of a $5 trillion economy.

To deliberate on the above issues and delve into the need for providing quality MedTech education, Dr. Dhirajlal Kotadia, Chairman @SMTStents had delivered the leadership lecture on "Developing Roadmap for fostering India's Medtech Sector". The talk was directed to the youth, policymakers, academicians so that all are better equipped to march towards achieving the UN SDGs. After his speech, a panel discussion was conducted to discuss the role of Academics and Industry for the growth of the Medtec sector in India. The panel was moderated by Prof. Kiran Kalia, Director NIPER – A and panel members Dr. Dhirajlal Kotadia, Founder and Chairman of Sahajanand Group of Companies, Shri Jai Prakash Shivahare, Commissioner of Health and Family Welfare Dept, GoG, Dr. Kamlesh Patel, CEO – Nidhi-TBI, IIPHG, Dr. Bhavesh Roy, MD, DM, Interventional Cardiologist, Zydus Hospital have discussed the challenges and future pathways in medical devices. The panel discussion ended on high spirits having opinions of Policymakers, Industry, Medical Doctors, and Academicians on the same platform. This half-day program has provided the chance to hear from Industry stalwarts, who have been doyens in their area on their vision towards shaping a sustainable future and impact on healthcare. The leadership talk is mainly directed to the youth, budding students in their respective fields of education, knowledge community at large along with policymakers, academic, and multilateral agencies so that all are aware and better equipped to march towards a societal impact and patient benefits.

Workshop under "informative lecture and workshop series."

On 17th - 18th June 2019, NIPER-A has organized the first in-house workshop under "Informative Lecture and Workshop Series" with an aim to educate and align new M.S. and Ph.D. students with publication ethics; research methodologies and online software/tools for reference management. A mobile-based online tool was utilized by the Organizing Committee to make sure the learning outcomes of the workshop.

The lectures and hands-on workshops were succeeded by a Mobile-based Online Quiz Competition in which the participants actively participated. The event was a leap step taken by NIPER-A to incorporate the Online-Education tools in the academic activities of the Institute. The Mobile-based Online Quiz was won by Ritu Soni and Ruhi Kale (Winner), Tanay Mahesh Dalvi, and Puspa Kanaka Madhuri Rampilla (1st Runner-up) and Vruti Patel and Siddhi Rakshe (2nd Runner-up) for Day-1 and Day-2, respectively.



India Pharma 2020

The India Pharma 2020 was organized by the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Govt. of India in association with Federation of Indian Chambers of Commerce and Industry at Mahatma Mandir, Gandhinagar, Gujarat, India from March 5-7, 2020.

It is an initiative to increase the overall growth of the Pharma sector, including exports and focus on the increase of Domestic production in the sector by the Government of India & FICCI, with the active participation from all Stakeholders. The first time, NIPER participated through exhibition and panel discussion at different forums.

NIPER stall was inaugurated by Shri. D.V. Sadananda Gowda, Hon'ble Minister (Chemicals & Fertilizers) GOI, Shri Mansukh Mandaviya, Hon'ble Minister of State (Independent Charge) of the Ministry of Shipping and Minister of State in the Ministry of Chemicals & Fertilizers, GoI and Dr. P. D. Vaghela, Secretary Ministry of Chemicals & Fertilizers, Department of Pharmaceuticals, GoI. All seven NIPERs showcased their capabilities to the Pharma and Medical Device sector, where multiple MSMEs and different delegates of Pharma and medical device industries interacted with NIPER scientists. NIPER-A took the lead in facilitating this platform on behalf of the NIPER group of institutions. Several B. Pharm and other medical students visited NIPER stalls, where they were counseled for their future career path through counseling and arrangement of online mobile-based quizzes. NIPER-A also demonstrated medical device prototypes developed through internal research, which got significant attention in the event.

Lifestyle Awareness Workshop

On 31st January 2020, Kaizen Hospital, Ahmedabad, conducted Lifestyle Awareness Workshop at NIPER – Ahmedabad. Dr. Harshad Soni delivered a lecture on "Lifestyle-related diseases & role of Vitamins". After the lecture, they conducted a free medical check-up (Vitamin, BMI, BP, etc. and health counseling) for faculty members, staff, and students.

Pre Placement talk by Advantmed India LLP, Ahmedabad

On 14th February, 2020, Advantmed India LLP, Ahmedabad, Healthcare Information Management Company, conducted pre-placement talk and workshop regarding Medical Coding, Scope of Coding Industry & Growth Structure, Medical Coder Lifecycle at NIPER-A

Pre-placement talk by APCER Life Sciences India

On 18th February 2020, APCER Life Sciences, Inc. visited NIPER-A campus and given the pre-placement talk.

Webinar on Two Dimensional Liquid chromatography (2D-L) Solution for Pharmaceutica, Biopharmaceutical Analysis Areas of discussion

NIPER-A Faculty and students attended a webinar on "Two Dimensional Liquid chromatography (2D-L) Solution for Pharmaceutica/Biopharmaceutical Analysis Areas of discussion" by Dr. Paramjeet Khandpur, Application Engineer at Agilent Technologies on 28th June 2019

Webinar on "AGNIi- Enabling Technology Commercialization

On 6th August 2019, NIPER - A Faculty and students attended the webinar on "AGNIi- Enabling Technology Commercialization" by Prof. K Vijay Raghvan, principal scientific adviser (PSA) Government of India

Webinar on "future of technical education in India"

On 22nd April 2019, NIPER - A Faculty and students attended the webinar on "Future of Technical Education in India" by Prof. Anil D. Sahasrabudhe, Chairman, AICTE as a part India First Leadership Talk Series by MIC

Interactive Scifinder Training Session

On 3rd April 2019, NIPER-Ahmedabad conducted an "Interactive SciFinder Training Session" for the students to sensitize and train them for the prior art literature search for scientific proposals. SciFinder (Chemical Abstracts Service, American Chemical Society, USA) is the latest addition to the cutting edge research support facility of NIPER-Ahmedabad. Notably, SciFinder is a convenient and reliable source for literature review, patents, invention to aid in cutting edge novel research. It has now become a core research tool for chemistry, biochemistry, chemical engineering, materials science, nanotechnology, and other science and engineering disciplines. The SciFinder is easy-to-use and enables the research process to be more creative and productive.

Visit by students and faculty of Gujarat University, Ahmedabad

Thirteen students, along with one Faculty member of Gujarat University, Ahmedabad, visited NIPER-Ahmedabad on 10th May 2019. They were briefed on the various research and academic activities of NIPER Ahmedabad in the Auditorium. After refreshments, they were conducted to the labs for a briefing on the research activities being undertaken by the Institute. Students also interacted with the Director NIPER - Ahmedabad. The students were very impressed and were motivated to aspire for the MS program/Ph.D. program at the Institute.

Students Yuvaraja's College Mysore visited NIPER-A

Twenty-one students, along with 01 Faculty members of Yuvaraja's College, Molecular Biology Department, Karnataka, visited NIPER-Ahmedabad on 30th January 2020. They were briefed on the various research and academic activities of NIPER Ahmedabad in the Conference room. After refreshments, they were conducted to the labs for a briefing on the research activities being undertaken by the Institute. Students also interacted with the Director NIPER - Ahmedabad.

Students Dr. D. Y. Patil College of Pharmacy visited NIPER-A

Thirty-two students, along with 04 Faculty member of Yuvaraja's Dr. D. Y. Patil College of Pharmacy, Akurdi, Pune visited NIPER-Ahmedabad on 31st January 2020. They were briefed on the various research and academic activities of NIPER Ahmedabad in the Conference room. After refreshments, they were conducted to the labs for a briefing on the research activities being undertaken by the Institute. Students also interacted with the Director NIPER - Ahmedabad. The students were very impressed and were motivated to aspire for the MS program/Ph.D. program at the Institute.

Visit by students and faculty of M.G. Science college, Ahmedabad

Thirty students, along with three Faculty members of M.G Science college, Ahmedabad, visited NIPER-Ahmedabad on 28th June 2019. They were briefed on the various research and academic activities of NIPER Ahmedabad in the Auditorium. Students also interacted with the Director NIPER - Ahmedabad. The students were very impressed and were motivated to aspire for the MS program/Ph.D. program at the Institute

Personal Development

The personal development club of NIPER-Ahmedabad provides a forum for open discussion on topics relevant to overall personality development and grooming of students. The club conducts activities like group discussions, debating, SWOT analysis, resume building, and other skills required for facing job interviews.

Journal Club

It is a platform to provide exposure to the researchers at NIPER-A with recent updates in scientific Diaspora. Utilizing all the available resources, including the past and recent peer-reviewed journal articles, it acts as a tool that gives insight into approach, opportunity, and application aspects of ongoing research. It provides an opportunity to improve presentation skills, learn and practice critical thinking, share ideas, knowledge, and experience.

Sports (Intra-NIPER-A sports week)

Every year NIPER-A organizes its sports week to encourage the sports activities in the Institute. This year the sports week commenced on 4th November and ended on 9th November 2019. Prof. Kiran Kalia, Director of NIPER Ahmedabad, inaugurated the event and addressed to the students about the role of sports in student life. All the students of the Institute participated with great enthusiasm. Sports week was also open for all the faculty and staff members of the Institute. Everyone actively involved in various sports such as cricket, volleyball, throwball, Basketball, Badminton, Football, Table tennis, etc. The games were played in excellent sportsman spirit, and students got a chance to display their talents in various sports.





The week started with Volleyball matches between 1st year M.S. and 2nd year MS team followed by girls Throwball match. Everyday matches of Volleyball and Throwball, Football, Basketball and Table Tennis, were conducted at the NIPER-A premises. Besides, the badminton, Chess, and Carrom matches were organized at the hostel premises of NIPER-A. The games were played in three categories for girls and boys viz. Singles, doubles. The week was full of exciting victories and near misses. The last day of the sports week was dedicated to cricket. Both the Boys and girls cricket team participated. It was great to see the enthusiasm of the faculty and staff team participating in cricket and giving good competition to the young boys. With so much fun and thrill, the sports week was ended with the finals of the boys cricket match between Ph.D. and M.S. 2nd Year students on the 9th November 2019.








Cultural Activity

A celebration of Navaratri (Garba Night)

The night of 07th October 2019 saw a lot of grandeur and glamour as it was the "Garba Night" of NIPER-Ahmedabad, at Gandhinagar campus. All the students, faculties, and staff members actively participated in the event in their traditional attires. Dancing to the tunes of "SaneDo, Bhai Bhai, Hinch," all the students enthusiastically celebrated the so-called grand festival of Gujarat. Girls in their ghagra cholis and boys in kediyos look simply alluring and added glory to the night. The event was delightful as all the students, faculties, and staff members enjoyed thoroughly. It was followed by dinner for all faculty, staff, and students.





Holi celebration

On 9th March 2020, NIPER - A family wished a prosperous, colorful, and safe Holi. Glimpses of Holi celebration of Director NIPER - A Prof. Kiran Kalia with the Faculty members and staff.

Farewell party "Hasta la Vista" 2019

Every beginning has its end, and an end has a new beginning. On behalf of NIPER - Ahmedabad, on 20th May 2019, M.S. First Year students organized a Farewell party "Hasta la Vista" 2019 for the final year students. We wish you all the very best for your bright future.

5th Alumni Meet at NIPER – A

On 18th January 2020, the National Institute of Pharmaceutical Education and Research (NIPER) – Ahmedabad (NIPER-A) organized 5th Alumni Meet at their new campus located at Palaj, Gandhinagar. The event was held by the Alumni Association of NIPER Ahmedabad (AANA) to strengthen the relationship between alumni, current students, and institutions. Prof. Kiran Kalia, President of AANA and Director, NIPER Ahmedabad, recognized the achievements of all the alumni and motivated them for their active participation in the growth of NIPER-Ahmedabad. Miss Heena Jariyal presented a brief introduction to the AANA portal and recent achievements of NIPER-Ahmedabad. Dr. Abhijeet kate introduced the placement cell of NIPER-A to all alumni and asked for their contribution towards the career development of current students. Prof. Kiran Kalia presented awards for 'Most Inspiring Alumni' to Mr. Jaimin Oza. Various cultural activities were also conducted as a part of this meet, and students of NIPER-Ahmedabad have shown their talent in singing, dancing, mimicry, drama, etc. All enjoyed the event, and it helped in bridging the gap between the alumni and current students.

73rd Independence Day Celebration at NIPER-Ahmedabad

On 15th August 2019, NIPER-Ahmedabad commemorated the 73rd anniversary of India's independence. The celebration began with the flag hoisting of Director Prof. Kiran Kalia, followed by an eloquent speech by her that messaged everyone to 'Respect freedom'. She urged the gathering to work with dedication towards the betterment of our country and promote unity as well as the integrity of the nation. During her address, she expressed her happiness on the progress-path, which the nation has taken and motivated the faculties and students to join the revolution by striving hard to bring innovations and inventions to the country. In her speech, she said that we should reduce the use of plastic to minimize the harmful effect of plastic on the environment and reduce pollution. Besides, she said that we should minimize mobile usage for better productivity at work. Prof. Kiran Kalia quoted various engaging success stories of the country and stressed that one should endeavor to be a better version of oneself, and for the same, we all should work hard each day. To mark the celebration, sweets were distributed with the exchange of greetings among all peers.

Further, the flag hoisting was succeeded by a Mobile-based Online Quiz (Title: Journals Club's "GK Meet") organized by the Journal Club of NIPER-Ahmedabad facilitated by Dr. Alok Jain in which the students, faculty, as well as the staff members, actively participated. The event was a leap step taken by NIPER-Ahmedabad to incorporate the Online-Education tools in the academic activities of the Institute. The Mobile-based Online Quiz was won by Kritika Nayak (Winner), LOKESH SHARMA (1st Runner-up), and Neeraj Kulkarni (2nd Runner-up).

Republic Day was celebrated at NIPER-Ahmedabad

71st Republic Day was celebrated at NIPER-Ahmedabad on January 26th 2020. The event started with flag hosting by the Director of NIPER-Ahmedabad. Students, Faculty, and staff members performed on the occasion of Republic Day to pay respect to our country's achievement and achievers. After the function further to encourage all the winners and the participants, the prize distribution ceremony of Intra NIPER sports week was organized on the occasion of republic day. Just like the nation-wide Padma awards are given on this day. Various trophies and certificates were awarded to the winners, followed by a volleyball match between the Ph.D. and M.S. teams, which further encouraged the players to play and keep their life healthy. This whole event was a great learning experience for all the students, and it left participants with joy and happiness.

हिंदी पखवाड़ा समारोह, नाईपर-अहमदाबाद (१३-२७ सितम्बर, २०१९)

राष्ट्रीय औषधीय शिक्षा एवं अनुसंधान संस्थान (नाईपर) अहमदाबाद में १३ सितम्बर से २७ सितम्बर, २०१९ तक हिंदी पखवाड़ा मनाया गया। राजभाषा समिति नाईपर-अहमदाबाद द्वारा आयोजित इस कार्यक्रम में विभिन्न प्रतियोगिताओं का आयोजन किया गया, जिनमें निबंध-लेखन, श्रुतलेख, प्रश्नोत्तरी, चित्र-प्रदर्शनी, वाद-विवाद, हिन्दी बोलचाल की भाषा एवं स्वरचित कविता पाठ प्रमुख रहीं। इस आयोजन में विद्यार्थियों का उत्साह देखते ही बनता था। विद्यार्थी अपने नियमित अनुसन्धान के साथ-साथ विभिन्न प्रतियोगिताओं की तैयारियों में भी तल्लीन देखे गए। कोई हिंदी-व्याकरण की तैयारी कर रहा थ, कोई निबंध की, तो कोई प्रश्नोत्तरी की, इस प्रकार का वातावरण देखकर कोई भी हिंदी प्रेमी बड़ा प्रसन्न होता। इस आयोजन में उल्लेखनीय बात यह रही थी कि जो विद्यार्थी हिंदी-भाषी राज्यों से नहीं आये हैं, जैसे आंध्र प्रदेश, महाराष्ट्र, बंगाल आदि उन्होंने भी विभिन्न प्रतियोगिताओं में बढ़-चढ़ कर हिस्सा लिया और उनका प्रदर्शन सभी निर्णायक गणों एवं दर्शक गणों ने सराहा। विभिन्न प्रतियोगिताओं में निर्णायक दल स्थानीय प्राध्यापक रहे।

इस हिंदी पखवाड़ा का शुभारम्भ १३ सितम्बर को मुख्य अतिथि के रूप में गुजरात विद्यापीठ के हिंदी के प्रोफेसर एवं विभागाध्यक्ष अतिथि प्रो. जशवंतभाई पंड्या की उपस्थिति में संस्थान की निदेशक महोदया प्रो. किरण कालिया एवं राजभाषा समिति के अध्यक्ष डॉ. अमित शारद के कर-कमलों द्वारा भारत माता के समक्ष दीप प्रज्वलन एवं पुष्पार्पण करके हुआ। इस अवसर पर हमारे मुख्य अतिथि ने अपने वक्तव्य में उन्होंने साहित्य पर जोर देते हुए कहा की "साहित्य समाज का आईना है और समाज साहित्य का दर्पण है, अर्थात ये एक दुसरे के पूरक हैं। उन्होंने हमारे प्रख्यात साहित्यकारों को भी याद किया और कहा की हमें उनसे प्रेरणा लेनी चाहिए की कैसे हिंदी एवं साहित्य का प्रचार-प्रसार करना चाहिए। संस्थान के **निदेशक प्रो. किरण कालिया** ने भी हिंदी भाषा पर अपने विचार प्रकट करते हुए कहा कि, संस्थान के ज्यादा क्रियाकलाप अंग्रेजी माध्यम में होने के बावजूत हिंदी पखवाड़ा मनना और प्रतिस्पर्धा में भाग लेना भी गर्व की बात है और स्पर्धा में एक दुसरे को टक्कर देने की जूनून पैदा करना हिंदी पखवाड़े की उपलब्धियां बन सकती है । इस कार्यक्रम में आयोजित चित्र प्रदर्शनी की आभा विलक्षण थी। विभिन्न प्रतियोगियों ने अपने विचार नियत विषय "पॉलोथिन का बहिष्कार" पर चित्र एवं नारे के माध्यम से भविष्य में होनी वाली कठीनाइयों को भी दर्शाया। वाद-विवाद प्रतियोगिता का विषय था, "हिंदी का पाठ्यक्रम में अनिवार्यता" जिसमे अधिकांश लोगों ने अनिवार्यता को महत्व देते हुए इसके पक्ष में अपनी राय रखी। "एक देश एक भाषा" पर जोर देते हुए कहा की लगभग सभी अन्य देशों में उनकी अपनी एक भाषा है जो पुरे देश को बांधती है उसी प्रकार हमारे देश में भी एक

ऐसी भाषा हो जो पुरे देश को एक सूत्र में बांध सके। हमने पहला दिन निबंध प्रतियोगिता से शुरू किया, उसके पश्चात् श्रुतलेखन, हिंदी बोलचाल की सामान्य भाषा का प्रयोग, वाद-विवाद, चित्र प्रदर्शनी, प्रनोत्तरी एवं स्व-कविता पाठ प्रतियोगिता का क्रमशः आयोजन किया गया।
प्रश्नोत्तरी प्रतियोगिता में सबसे ज्यादा प्रतियोगिओं ने भाग लिया जो हमने ऑन-लाइन (काहूत) मोबाइल के माध्यम से प्रतियोगिता रखी थी लगभग १०० से ज्यादा प्रतियोगिओं ने भाग लिया 1 निबंध प्रतियोगिता का शीर्षक था "चंद्रयान मिशन: सफलताएँ एवं असफलताएँ" और हमें अत्यधिक ख़ुशी है कि हमारे संस्थान के विद्यार्थी न केवल अपने पाठ्यक्रम में श्रेष्ठ हैं अपितु अन्य विषयों में भी उनकी उतनी ही रूचि है, जो हमें निबंध के माध्यम से उनके ज्ञान और जानकारियों का पता चला
इस पखवाड़े का समापन २७ सितम्बर को सरदार पटेल विश्वविद्यालय के हिन्दी विभाग के प्रोफेसर मदन मोहन शर्मा, संस्थान के अनुष्ठता (डीन) डॉ. पल्लव भट्टाचार्य एवं राजभाषा समिति के अध्यक्ष डॉ. अमित शारद के उपस्थिति में हुआ। अपने वक्तव्य में उन्होंने हिन्दी भाषा को सरल बनाने का सुझाव दिया और कहा कि इस दिशा में भी चल रहा है, ताकि लोग हिंदी का अत्यधिक उपयोग सरलता के साथ कर सके । हमें किसी भाषा का अपमान नहीं करना चाहिये अपितु अन्य भाषा के शब्द यदि अत्यधिक प्रचलित हों तो उसे हिंदी भाषा के शब्द के रूप में अपनाने में कतई संकोच नहीं करना चाहिए क्योंकि हिंदी को सर्वसम्मति एवं सुझावों के द्वारा ही आगे बढ़ाया जा सकता है ने की किसी के ऊपर जबरदस्ती थोप कर राजभाषा समिति के अध्यक्ष डॉ. अमित शारद ने कार्यक्रम विवरण देते हुए, कार्यक्रम की प्रतियोगिताओं, स्पर्धकों की संख्या और उनके उत्साह के बारे में बताया एवं अंतिम में पखवाड़े की सफल आयोजन एवं इसमें शामिल सदस्यों के लिए धन्यवाद व्यक्त किया। कार्यक्रम के अंत में विभिन्न प्रतियोगिताओं के विजेताओं के नामों की घोषणा की गई एवं पुरस्कार प्रदान किया गया। अतिथिश्री को स्मृति चिन्ह प्रदान कर आभार प्रकट किया गया। इस समारोह की सफलतापूर्वक आयोजन में राजभाषा समिति के सदस्य डॉ. अमित शारद, श्री सुजीत पाठक, श्री आशुतोष गोस्वामी एवं सुश्री कोमल पाण्डेय का भी सहयोग सराहनीय था।

Plastic Waste Management – Ban of Single Use of Plastics

NIPER-Ahmedabad celebrated " Plastic Waste Management Awareness" between 20th Sep.-2019 to 2nd Oct. 2019. Awareness drive carried out by NIPER-Ahmedabad on Plastic Waste Management-Ban of Single-Use Plastics. Our country is our Identity, so, keep Identity clean. Awareness of Plastic Waste Management drive at Palaj village, Gandhinagar, was carried out today by the faculty, staff, and students of NIPER-Ahmedabad. (No. of People participated on the day of Activity 40) Faculty, staff, and students participated in the #AwarenessDrive about Plastic Waste Management, Ban on the use of plastic bags. Make India plastic-free. Use paper bags. (No. of People participated on the day of Activity 40) Awareness campaign run by NIPER-Ahmedabad student at Palaj Village (Number of People joined on the day of Activity 40) Poster Competition organized by NIPER-Ahmedabad. To save the environment deterring usage of plastic is of utmost essential. Under this theme, a poster presentation competition was held at NIPER-A, which showed enthusiastic participation from students. The posters showed how usage of plastic is detrimental and how we can save our environment for future generations (No. of People participated 08)

Teachers Day Celebration

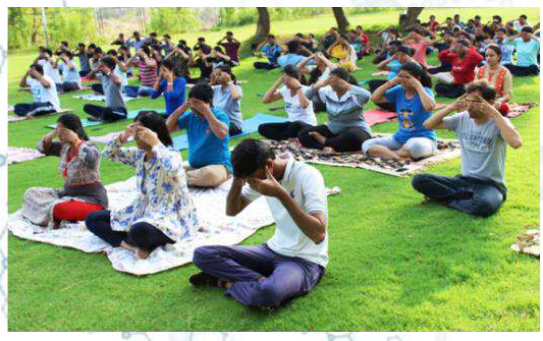
On 5th September 2019, Teacher's Day was celebrated with high enthusiasm at NIPER-Ahmedabad. Several activities at the event were planned by students of NIPER-Ahmedabad to dedicate the eve to the teachers and appease the role of a teacher in their life. The live and humorous anchoring by M.S. student Mr. Nirmal, Ms. Sweety, Mr. Adarsh, and Ms. Saleha added life and fun to the event. Following this, faculty members were called upon the stage and presented with mementos by students. Some fun-filled games were organized for teacher's which included Kahoot and Pictionary. The event ended with cake cutting and a merry note from students and teachers! Director delivered thank you address to all the students for everlasting memories.

Celebrated World Environment Day

With increasing industrialization, there is increasing awareness about the protection and improvement of the human environment. Change in the atmosphere has direct forbearance on the well-being of people and economic development throughout the world. To mark the importance of having a healthy environment for better living, NIPER- Ahmedabad Celebrated World Environment Day on 5th June 2019. Director NIPER-A, Prof. Kiran Kalia, addressed the students and planted a sapling on the occasion of World Environment Day. Faculty, Staff, and Students also took part in the Tree Plantation Drive.

Celebrated 5th International Yoga Day

NIPER - Ahmedabad celebrated 5th International Yoga Day on 21st June 2019. Prof. Kiran Kalia, Director of NIPER-A, initiated the celebration by addressing the students, faculty, and staff members about the importance of Yoga in our daily life. Since the theme for this year was "Yoga for Heart", various Yoga Asanas related to cardiac health were performed by everyone, and the entire event was well coordinated by faculty members and student volunteers.



Dr. A. P. J. Abdul Kalam Innovation Week

Institution's Innovation Council (IIC) – NIPER Ahmedabad has conducted a workshop to commemorate the birth anniversary of Dr. A P J Abdul Kalam. The workshop aimed to apprise the students about innovation and entrepreneurship. During this workshop, three lectures on topics that form the backbone of entrepreneurship were delivered. The first lecture on IPR for start-ups was given by Dr. Kaushik Banerjee, GM, ZRC, Cadila, Ahmedabad. He discussed the role of IPR in tech start-ups and shared his view on protecting the intellectual properties to get a competitive advantage. Ms. Leena Sharma from Piramal Enterprises, Ahmedabad, delivered the 2nd lecture on the business development process in a start-up and critical factors worth considering for any start-ups. The 3rd lecture on the role of risk management in a start-up was delivered by Dr. Ravi Shah, Assistant Professor, NIPER-A, where he discussed the strategic way to improve the risks that generally creep in a start-up.

Following the lecture series, a brain-storming session was held under the mentorship of Dr. Prasoon Kumar, Assistant Professor, NIPER-A. On the final day, students presented their idea before the jury consisting of Dr. Akshay Srivastava, Dr. Abhijeet Kate, Dr. Dinesh Kumar, Dr. Ravi Shah, and Dr. Prasoon Kumar. A total of ten teams were participated in the competition and showcased their innovative solution to some of the pertinent problems in society. The top four teams were felicitated by our Chief Guest, Prof. Dr. V Nagaraj, on the 15th of October, the birth anniversary of Dr. A. P. J. Abdul Kalam.

National Unity Day

National Unity Day On the occasion of the National Unity day "Rashtriya Ekta Diwas" on 31st October, 2019 the birth anniversary of Iron Man of India Sardar Vallabh Bhai Patel was celebrated in NIPER- Ahmedabad. Honorable director Prof. Kiran Kalia flagged off for the RUN FOR UNITY, where everyone, including students, faculty, and staff members, participated actively. The run started at 7 a.m from NIPER-A main gate till Airforce Circle (G-7 circle) and then again back to NIPER-A premises. Finally, the event was concluded with the address of Director Prof. Kiran Kalia to the students and staff members for maintaining the unity and integrity of the nation, followed by refreshment. This run vitalized and motivated the students to share their views regarding the life and exceptional contributions of Sardar V. Patel for the nation and his role in the independence of India.

New Year 2020 celebration at NIPER - A campus

On the eve of New Year, NIPER-A celebrated with Students, Faculty, and Staff on 1st January 2020 at NIPER - A campus, and the event ended with cake cutting.

Vigilance Awareness Week

Vigilance Awareness Week was observed in NIPER Ahmedabad from 28th October 2019 to 01st November 2019. The Theme decided by the "Vigilance Commission was “INTEGRITY - A WAY OF LIFE.”The Awareness Week Programme commenced with a pledge on 30th Oct 2019 at 11:00 a.m in the Auditorium. The Integrity Pledge was taken by all students, staff, and faculties. Despite this, each one was also encouraged to take an e - pledge online. The purchase section sent out a letter to all our vendors to make the Integrity Pledge online. To spread the awareness on Vigilance and the Integrity Pledge, volunteer students also organized a pamphlet distribution and awareness campaign in Palaj Village with standees and banners. They informed the villagers on vigilance and corruption-free India. The speech competition was also organized in the auditorium on corruption-free India in which several students participated, and the best speakers were announced. The first winner was Mr. Gaurang, Second was Ms. Kalyani, and third was Mr. Nirmal and Ms. Nancy

Name of Competition	Name of Winner	Class
Speech Competition on corruption-free India	Mr. Gaurang (first)	MS 1st Year
	Ms. Kalyani (Second)	MS 1st Year
	Mr. Nirmal (third)	MS 1st Year
	Ms. Nancy (third)	MS 2nd Year

Swachhata Pakhwada

Mahatma Gandhi dreamed not only of free India but also of clean and developed India. Mahatma Gandhi secured freedom for Mother India, so now we endeavor to serve Mother India by keeping the country neat and clean. To keep the country clean, I take this pledge that I will remain committed to cleanliness and devote around 100 hours per year that is just two hours per week to conduct cleanliness drive voluntarily. I will neither litter nor let others litter. I will initiate the cleanliness drive from myself, my family, my locality, my village, and my workplace. I believe that the countries of the world that appear clean because their citizens don't indulge in littering, nor do they allow it to happen. With this firm belief, I will propagate the message of Swachh Bharat Mission in villages and towns. I will encourage 100 other persons to take this pledge, which I am taking today.

I will endeavor to make them devote their 100 hours for cleanliness. I am confident that every step I take towards cleanliness will help in making my country clean. NIPER-Ahmedabad celebrated "Swachhata Pakhwada" between 1st to 15th September 2019. The program was inaugurated by a pledge for cleanliness under the leadership of Dr. Kiran Kalia. The pledge involved maintaining cleanliness and taking responsibility individually.

The office started the initiative by shredding old files/correspondences/cleaning of junk packing material of stores etc. All computers were cleaned for e-waste and removal of Plastics, wastage, etc. were carried out.

The students thoroughly cleaned their respective labs. It was followed by a collective cleaning activity of NIPER Ahmedabad garden, canteen area, playground, and corridors. The drive was followed by cleaning Palaj village near the NIPER-Ahmedabad campus. Hostel premises were also cleaned actively by all the students, faculty members, and non-teaching staff of the Institute. Disposal of expired medicines was conducted and making necessary efforts toward rainwater harvest and setting up of plants for paper recycling Adaptation of five Government Schools to create awareness and carry out cleanliness drive in the school premises. Competition / Plays on Self – Hygiene, Installing dustbins, and distribution of sanitary napkins in girls' schools in the rural areas were undertaken. Distribution of pamphlets on the use of solar power and other renewable sources of energy was also done. Awareness of avoiding the use of plastic recycling and reuse was disseminated in the form of placards and pamphlets.

Plantation of saplings was done by students and faculties of NIPER A under the leadership of the Director. Institute also undertook the beautification drive of the divider on the road astride Making of Swachchata Pakhwada film was done to make the event memorable. In the last day ceremony, the Director felicitated the workers and participants who participated wholeheartedly in the Swachhata Pakhwada. Thanksgiving to Cleaning Staff and a Concluding Session & Release of Swachchata Pakhwada film was done by Dr. Alok Jain and Bhavin Gayakvad.

Winners of Competitions:

Name of Competition	Name of Winner	Class
Best Cleanroom awards Boy's Hostel (M.S.)	Room.No. 103	M.S. 1st Year
Best Cleanroom awards Girl's Hostel (M.S.)	Room.No. 301	M.S. 1st Year
Best Cleanroom awards Boy's & Girl's Hostel (Ph.D.)	C-204 (Ph.D., Boy) A-201 (Ph.D., Girl)	Ph.D.


NIPER Ahmedabad नाइपर अहमदाबाद की छात्रा ने जीता बेस्ट नेस्ले पाउडर चैलेन्ज अवार्ड

Lichens new key to cancer research?

NIPER to host ICNDT: NIPER-A will host International Conference on Neurological Disorders and Therapeutics (ICNDT) from October 24 to 26. Organizers mentioned that discussions will be around themes such as neural circuits and other related topics.

72 get Niper degrees

At the 7th convocation of the National Institute of Pharmaceutical Education & Research, Ahmedabad, 72 got MS (Pharm) degrees on Saturday. Dr Renu Swarup, the biotechnology secretary of the ministry of science, was the chief guest.

Using stem cells to save neu

GUJARAT UNIVERSITY

VOICES

Gujarat University making it to 60th rank in top 100 in overall category speaks volumes of the quality of education and high standard of state varsity
–Anju Sharma, Principal secy

GU has scored well in all criteria, be it teaching-learning resources, research and publication, public perception. Govt's constant guidance
–Himanshu Pandya, ex-VC, Gu

In teaching lea resources, ou inclusivity, stude ments we have r the best. We ne better in PhD o
–Kiran Kalia, Dir

Minister more co ticipated in we conside good as la do deta

PER-A faculty gets search grant for study stroke: Dr Pallab attacharya, assistant ofessor at National Institute Pharmaceutical Education d Research (NIPER), medabad, received ernational grant of $20,000 pre-clinical studies on oke. TNN

अहमदाबाद
AHMEDABAD

National Institute of Pharmaceutical Education and Research, Ahmedabad (NIPER-A)

Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Government of India

Opposite Air force Station, Palaj, Gandhinagar-382355, Gujarat, India.
Phone : +91 79 66745555, +91 79 66745501
Fax : +91 79 66745560
Email :registrar@niperahm.ac.in
Website :www.niperahm.ac.in