वार्षिक प्रतिवेदन / Annual Report 2008-09

राष्ट्रीय औषधीय शिक्षा एवं अनुसंधान संस्थान (नाईपर)
बालानगर, हैदराबाद–500 037. भारत
National Institute of Pharmaceutical Education and Research (NIPER)
Balanagar, Hyderabad-500 037. India.

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National Institute of Pharmaceutical Education and Research (NIPER)

Balanagar, Hyderabad-500 037. India.

FROM DIRECTOR IICT'S DESK

भारतीय रासायनिक प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगि अनुसंधान परिषद्)
Indian Institute of Chemical Technology
(Council of Scientific & Industrial Research)
हैदराबाद-500 007. भारत Hyderabad - 500 007. INDIA.

Dr. J.S. Yadav, FNA, FTWAS
Director

डॉ.जे.एस. यादव, एफ.एन.ए., एफ.टी.डब्ल्यू.एम.एस
निदेशक

MESSAGE

I am pleased that National Institute of Pharmaceutical Education and Research (NIPER-Hyderabad) has successfully completed 2 years of its inception. The first batch of the M.S. (Pharm) course students have completed the degree in July, 2009 and some of them have joined various institutions and pharma companies. The institute is in the process of getting established by providing the necessary infrastructure for its growth particularly to take up the research activity for initiating the Ph.D., programmes in 2010.

IICT as its mentor institute is offering its full support in the growth and development of this institute more precisely in the practical training of the students through its faculty. I am happy to extend my support and guidence to see that this institute flourishes in the coming years.

My best wishes for NIPER-Hyderabad in its futue endeavours.

(J.S. YADAV)

28-10-2009

FROM PROJECT DIRECTOR'S DESK

नाईपर हैदराबाद
NIPER, HYDERABAD

राष्ट्रीय औषधीय शिक्षा एवं अनुसंधान संस्थान
बालानगर, हैदराबाद-500 037. भारत

National Institute of Pharmaceutical Education and Research
Balanagar, Hyderabad- 500 037, India

Mentor Institute
IICT, Hyderabad.

NIPER-Hyderabad has successfully completed two years of its functioning after its establishment in 2007. It is my pleasure to present to you the progress report of NIPER-Hyderabad for the period of 2008-09.

The first batch of the M.S.(Pharm) course has come out after its sucessful completion of the course and second batch of students are working on their projects while the third batch students have started their first semester course

The vision of this institute is to be a vital source of excellence in achieving targets relating to Human Resource Development. Research and Development in the field of pharmaceutical sciences and alied fieds and to be a strong platform for collaborative support to the Pharmaceutical industry. We are steadily progressing on this path as reflected from the number of students that have joined the pharma industries and pursuing research activity abroad as well at the national institutes in the country. The research labs are being developed in this institute and the faculty has been strengthened to provide the best education in pharmaceutical sciences. This institute is presently being mentored by Indian Institute of Chemical Technology (IICT), Hyderabad and however, the facilities are being created at this institute for it to become self reliant.

The Department of Pharmaceuticals under the Ministry of Chemicals & Fertilizers has been extremely helpful in the develoment of this institute.

I am thankful to my colleagues both from the scientific as well as administrative side and students for their cooperation.

It is my belief that this institute will grow to reach greater heights in the years to come

28-10-2009

(DR. AHMED KAMAL)

Ph: 040-23073740/41, Fax: 040-23073751
E mail:director@niperhyd.ac.in, niperhyd@yahoo.com Website: www.niperhyd.ac.in

FROM REGISTRAR'S DESK

नाईपर हैदराबाद
NIPER, HYDERABAD

राष्ट्रीय औषधीय शिक्षा एवं अनुसंधान संस्थान
बालानगर, हैदराबाद-500 037. भारत

National Institute of Pharmaceutical Education and Research
Balanagar, Hyderabad- 500 037, India

Mentor Institute
IICT, Hyderabad.

It is a great pleasure that National Institute of Pharmaceutical Education and Research Hyderabad is releasing its Annual Report 2009 for the academic year 2008-09 on the eve of its Second Foundation Day. I am given to understand that within a period of two years NIPER Hyderabad has progressed tremendously in academic and research activities.

In cooperation from the mentor institute, Indian Institute of Chemical Technology, NIPER Hyderabad accelerates the research activities in the concerned areas of drug discovery and development to upgrade the quality health of the mankind. Also, NIPER Hyderabad plays a pivotal role in creating well talented human resource to meet the needs of pharmaceutical industry.

I am sure that NIPER Hyderabad continues to progress with pace to offer quality education and emerge as a role model institute in India and around the globe. Young and well qualified faculty have been inducted into NIPER to train and fine tune the students. Under the leadership of Dr. J. S. Yadav, Director, IICT Hyderabad and Dr. Ahmed Kamal, Project Director, NIPER Hyderabad will flourish and fulfil the motto of its establishment.

28-10-2009

N. Satyanarayana

PROF N. SATYANARAYANA

Ph: 040-23073740/41, Fax: 040-23073751
E mail:director@niperhyd.ac.in, niperhyd@yahoo.com Website: www.niperhyd.ac.in

NIPER-Hyderabad Building

Flag hoisting and Independence Day 2008 celebration at NIPER Hyderabad, Dr. J S Yadav, Director IICT, Mentor Institute NIPER Hyderabad hoisted the tricolour flag

Shri Ashok Kumar and Shri R C Jha laying foundation for NIPER Hyderanad Garden on 06th Feb, 2009

Activities of NIPER Hyderabad

NIPER Hyderabad stepped into the second academic year on 27th July, 2008 with the arrival of selected students and a grand orientation program. Students were let to know NIPER Hyderabad, the faculty and the facilities. Several experts from academia and industries spontaneously accepted the invitation to be our faculty and participated with great enthusiasm for the completion of syllabus. Coaching was not confined to syllabus, students were also trained for personality development skills and physical fitness (Yoga). The 3rd semester students resumed their research projects many at IICT Hyderabad and some in pharmaceutical industry from August 2008. Mid term exams were conducted in the month of October 2008 and end semester exams in December 2008.

Second semester of the same batch commenced after a small sabbatical from January 2009. Mid term project progress of 3rd semester students was conducted in February 2009 and mid term examination for 2nd semester was scheduled in April 2009. Both end term examination of 2nd semester and dissertation submission and evaluation of 4th Semester were held in June 2009.

The faculty and the students were encouraged in scientific publication and presentations to bring NIPER Hyderabad under the scientific research platform. This led to several publications in reputed journals. Conferences and seminars were organized in NIPER Hyderabad, faculty and students were sponsored for conferences such as IPC, IPS, Bio Asia, etc.

To enable students in updating their knowledge and awareness about the surroundings, NIPER Hyderabad has taken up strengthening the laboratory and library facilities. Numerous instruments have been installed and some are under the process of installation. A large number of books have been added to library database including 131 titles. To hasten the literature search exhaustively about any scientific findings, NIPER Hyderabad provided SciFinder facility in the library.

In addition to providing quality education as its priority, NIPER Hyderabad has organized campus recruitments for the placement of students. Noted industries including Perrigo, Novartis, Suven, DataMonitor, Biocon, Pharmaexil, etc, came forward to visit NIPER Hyderabad and selected our students with attractive pay packages. Eleven students have been selected in IICT Hyderabad which has scope to pursue Ph. D in due course.

Objective and Milestones

- To become a world class institute which will be a source of future leaders in pharmaceutical science education, research and industry, the students securing a great height in creativity and professionalism
- To bring synergy between academia and industry
- To expand research activities in new avenues and emerging segments
- To explore national and international collaboration in pharmaceutical sciences in line with the policies/ directions of the Government of India
- To train the students with motivation to enhance the creativity and professionalism
- To develop human resource in the field of pharmacy

Academic programme

NIPER Hyderabad has been set up to provide initially Master's level programme in three different specializations of pharmacy which lead to M.S degree in Medicinal Chemistry, Pharmaceutical Analysis and Pharmacology & Toxicology.

Admission of students in 2008-09

The total number of students who have been admitted to pursue M. S (Pharm) in NIPER Hyderabad

Department	Number of students Admitted (2008-09)	Cumulative (2007-08 & 2008-09)
Medicinal Chemistry	22	42
Pharmaceutical Analysis	12	23
Pharmacology and Toxicology	13	23
Total	47	88

Academic Calendar for M. S (Pharm) for the Year 2008-09

The faculty of NIPER Hyderabad endow maximum efforts to ensure the academic activities as per the almanac

July to December 2008 1st semester

Batch	Activity	Dates
2008-10	Commencement of 1st Semester	28th Jul 2008
2008-10	Mid-Term Examination 1st Semester	13th Oct – 19th Oct 2008
2008-10	End-Semester Examination 1st Semester	20th Dec – 31st Dec 2008
2008-10	Declaration of Result 1st Semester	22nd Apr 2009

July to December 2008 3rd semester

2007-09	Submission of Mid-Term Report on Thesis Work 3rd Semester	12th Feb 2009
2007-09	Mid-term Presentation of Thesis Work of 3rd Semester	16th Feb 2009
2007-09	Declaration of Result 3rd Semester	13th May 2009

January to June 2009 2nd Semester

Batch	Activity	Dates
2008-10	Commencement of 2nd Semester	27th Jan 2009
2008-10	Mid-Term II semester Examination	9th Apr – 17th Apr 2009
2008-10	End-semester Examination M.S (Pharm) 2nd Semester	15th – 23rd Jun 2009
2008-10	Submission of Marks by Examiners (End semester exam)	25th Jul 2009
2008-10	Declaration of result of End-Semester Examination M.S (Pharm) 2nd Semester	19th Aug 2009

January to June 2009 4th Semester

2007-09	Submission of Unbound Copy of Thesis 4th Semester	20th Jun 2009
2007-09	Defence of Thesis 4th Semester	25th – 27th Jun 2009
2007-09	Last Date for Submission of Bound Copies of the Thesis 4th Semester M.S. (Pharm)	30th Jun 2009
2007-09	Declaration of Results for M.S (Pharm) 4th semester	1st Jul 2009

Scientific and Technical staff

Name	Designation
Dr. J. S. Yadav	Director, IICT, Mentor Institute, NIPER Hyderabad
Dr. Ahmed Kamal	Project Director NIPER Hyderabad
Prof. N. Satyanarayana	Registrar NIPER Hyderabad

Medicinal Chemistry

Name	Designation
Prof. V Peesapati	Professor
Dr. K Srinivas	Course Coordinator
Dr. Ravindra Kulkarni	Assistant Professor
Dr. Nagendra Babu	Assistant Professor
Dr. N Shankar	Assistant Professor
Dr. Krishnam Raju	Assistant Professor
Dr. Mohd. Arifuddin	Lab Facility Manager
Mr. Rajesh Nayak	Project Assistant
Mr. Pratap Reddy	Project Assistant

Pharmaceutical Analysis

Name	Designation
Dr. R Srinivas	Course Coordinator
Dr. Narendra T.	Assistant Professor
Mr. Gananatham S	Assistant Professor
Mr. Subramanyam	Project Assistant
Mrs. Padmashree Patel	Project Assistant

Pharmacology and Toxicology

Name	Designation
Dr. S. Ramakrishna	Course Coordinator
Mrs. Sandhya	Lecturer
Mr. T. Venu	Lecturer
Mr. Krishna Kishor	Project Assistant
Mrs. Jayashree	Project Assistant
Mr. G. Chandrakanth	Project Assistant

Administrative and Infrastructure Staff

S.No	Name of the Employee	Designation
1	Shri. K.R. Sarma	Co-ordinator (Admin)
2	Mrs. Sujatha Rao Srigiri	Administrative Officer
3	Mr. K. Venugopal Rao	Resident Hostel Manager
4	Mrs. M. Swapna Devi	Secretarial Assistant
5	Mr. M. Monohara	Assistant Administration
6	Mr. Rajesh Kumar Jha	Assistant Administration
7	Mr. Y. Narsaiah	Project Assistant
8	Mrs. V. Sai Vishali	Assistant Academic
9	Mrs. T. Sunitha	Assistant Administration
10	Mrs. A. Kalpana	Assistant Administration
11	Mr. G. Venkateswarlu	System Adminsitrator
12	Mr. T. Praveen	Stores & Purchase in charge
13	Ms. A. Anupa	Assistant Adminsitrator
14.	Mr. Ch. Balraj	Lab Attender
15.	Mr. S. Veeresh Lingam	Lab Attender
16	Mr. P. Raj Kumar	Lab Attender

List of Guest Faculty

Members of guest faculty, who have helped NIPER Hyderabad conducting regular theory classes, shared their experiences and knowledge with the students and helped NIPER Hyderabad to complete the prescribed syllabus within the stipulated time, are listed below:

S. No	Name of Faculty	Affiliation
01	Dr. Amit Khanna	Novartis Hyderabad
02	Mrs. Annapurna J	Koti Woman's College Hyderabad
03	Mrs. Anupama K	Sultan Uloom College of Pharmacy Hyderabad
04	Dr. Aparna Duggirala	CCMB Hyderabad
05	Dr. Bhanu Prakash	IICT Hyderabad
06	Dr. Bhujanga Rao A	Natco Pharmaceuticals Hyderabad
07	Dr. Bhutani K. K	NIPER Mohali
08	Dr. Biswanath Das	IICT Hyderabad
09	Dr. Diwan P V	IICT Hyderabad
10	Dr. Gopal Reddy	Osmania Medical College Hyderabad
11	Dr. Halakatti	Shree Krishna Pharmaceuticals Hyderabad
12	Dr. Harish Padh	NIPER Ahmedabad
13	Dr. Jagadeeshan	NIN Hyderabad
14	Dr. Jalapathi	Osmania University Hyderabad
15	Dr. Lakshmi Pathi V	Kakatitya University Waranagal
16	Dr. Nalini Sastry	SV Pharmacy College Hyderabad
17	Dr. Nageshwar Rao R	IICT Hyderabad
18	Dr. Prassanna Krishna A	NIN Hyderabad
19	Dr. Ramakrishna S	IICT Hyderabad
20	Dr. Ramanathan	Gardha Chemicals Mumbai
21	Dr. Rao V J	IICT Hyderabad
22	Mrs. Sandhya D	Hyderabad
21	Dr. Sharma P N	Osmania University Hyderabad
22	Dr. Shridhar B	IICT Hyderabad
23	Dr. Srinivas R	IICT Hyderabad
24	Dr. Vivekandanan	NALSAR Hyderabad
25	Dr. Yesudas	IICT Hyderabad

Results

Medicinal Chemistry 2007-09 batch

Roll No	Name of the Student	Final CGPA
MC-2007-01	Akhila M	9.50
MC-2007-02	Mahesh Nasare	8.96
MC-2007-03	Bohari Mohammed	9.46
MC-2007-04	Ranjita Nayak	9.76
MC-2007-05	Shah Chintan	9.16
MC-2007-06	Rakesh Soni	9.14
MC-2007-07	Nidhi Goel	9.18
MC-2007-08	Abhishek Kumar	8.70
MC-2007-09	Parikh Nirali	9.30
MC-2007-10	Baseta Ashish	9.26
MC-2007-11	Sagarika Panda	8.12
MC-2007-12	Lokesh Pathak	9.38
MC-2007-13	Shiv Kumar	9.24
MC-2007-14	Priyamvada	8.96
MC-2007-15	Priyank Khare	8.78
MC-2007-16	Patel Sulay	8.86
MC-2007-17	Kadasi Sundeep	8.72
MC-2007-18	Dengada Amrapali	8.64
MC-2007-19	Vinod Kumar	8.28
MC-2007-20	Mahesh Chandra Byadwal	8.24

Medicinal Chemistry 2008-10 batch

Roll No	Name of the Student	II Sem. CGPA
MC-2008-01	Dhongade Hrishikesh	9.17
MC-2008-04	Mahajan Satish	7.43
MC-2008-05	Chetan Bhutada	6.80
MC-2008-06	Srinivasareddy Telukutla	8.83
MC-2008-07	Dusmant Kumar Parida	6.77
MC-2008-08	Saiyed Aziz Ali	8.33
MC-2008-09	Raja Ravi Kiran V	7.87
MC-2008-10	Mahaveer Prasad Patodiya	8.93
MC-2008-11	Ravindra Singh Rajpoot	9.37
MC-2008-12	Ramji Yadav	6.07
MC-2008-13	H.V.S. Sri Ramkumar Bomma	8.07
MC-2008-14	Jeetendra Yadav	8.10
MC-2008-15	Patel RohitBhai	8.80
MC-2008-16	Shingala Shailesh	8.67
MC-2008-17	Gaikwad Vasant	9.43
MC-2008-18	Amit Arya	9.63
MC-2008-19	Vikram Pothula	6.43
MC-2008-20	Ravinder Kumar	8.20
MC-2008-21	Ramkesh Meena	8.20
MC-2008-22	Vijay Kumar Meena	6.77

Pharmaceutical Analysis 2007-09 batch

Roll No	Name of The Student	Final CGPA
PA-2007-01	Maninder Kaur	9.00
PA-2007-02	Mehul Kumar Prajapati	9.32
PA-2007-03	Pardeep Dahiya	8.68
PA-2007-04	Dopadally Eranna	8.76
PA-2007-05	Nahire Rahul	9.04
PA-2007-06	Varu Ramaji	9.18
PA-2007-07	Patel Umeshkumar	9.30
PA-2007-08	Janbandhu Rahul	8.42
PA-2007-09	Devi Ramesh	8.02
PA-2007-10	Anil Kumar Meena	7.32
PA-2007-11	Joshi Sagar	8.58

Pharmaceutical Analysis 2008-10 batch

Roll No	Name of the Student	II Sem. CGPA
PA-2008-01	Patel Alpeshkumar	8.70
PA-2008-02	N.Mallikarjun	8.77
PA-2008-03	Devrukhakar Prashant	7.83
PA-2008-04	Gopal Krishna Tunga	9.13
PA-2008-05	Surya Prakash Jain	8.30
PA-2008-06	Patil Sandeep	9.17
PA-2008-07	Wani Dattatreaya	8.50
PA-2008-08	Harihara Theja Dugga	8.70
PA-2008-09	Gunjal Rahul	8.43
PA-2008-10	Mukesh Kumar Bairwa	8.13
PA-2008-11	Borkar Roshan	7.13
PA-2008-12	Lalita Meena	7.87

Pharmacology and Toxicology 2007-09 batch

Roll No	Name of The Student	Final CGPA
PT-2007-01	Varsha Menghani	8.86
PT-2007-02	Brija Mohan Singh	7.74
PT-2007-03	Ashish Upadhyay	8.00
PT-2007-04	Karthik Mangu	9.32
PT-2007-05	Vikas Garg	9.12
PT-2007-06	Deepak Kumar Jena	9.18
PT-2007-07	Vishwajeet Mohan	8.90
PT-2007-08	Sanwar Mal	7.96
PT-2007-09	Abhinav Kanwal	8.86
PT-2007-10	Dhan Singh Meena	7.88

Pharmacology and Toxicology 2008-10 batch

Roll No	Name of the Student	II Sem. CGPA
PT-2008-01	K. Prashanth Kumar	7.07
PT-2008-02	Date Sneha	9.20
PT-2008-03	Yogesh Kumar Bulani	8.83
PT-2008-04	Gangwal Puja	8.00
PT-2008-05	Abhang Manoj	8.10
PT-2008-06	Bidya Dhar Sahu	9.07
PT-2008-07	Anil Kumar Kota	8.80
PT-2008-08	Shine Thomas T.	8.73
PT-2008-09	Prachi Gupta	8.60
PT-2008-10	G. Vasantha	8.07
PT-2008-11	Dhadke Shyam	6.07
PT-2008-12	Jitendra Kumar Meena	7.07
PT-2008-13	Sojitra Bhaveshkumar	8.37

Facilities

Apart from the academic curriculum, the institute also created the central facilities to extend its support for research activities within the institute including

- Library and Information Centre
- Computer Centre
- Instrument Facilities

Library and Information Centre:

The NIPER Hyderabad library plays a cardinal role in rendering quality education with up to date information through vast collection of books, journals and periodical with photocopying facility. The library of NIPER Hyderabad feels great pride for accessing SciFinder which helps the faculty and students to update the knowledge in research.

S. No	Source	Upended in 2008-09	Total
01	Books	194	
		131 Titles	3,794
02	Bound Journals		1100
	Unbound Journals		2000
03	Journal subscription	06	
	Indian	06	
04	M.S. Thesis	41	41
05	Reports and News Papers	03	10

Computer Centre:

Computer centre at NIPER-Hyderabad serves the needs of faculty, staff and students in updating their knowledge with the help of latest literature in pharmaceutical and other allied areas. It is provided with 75 high end desktops which are connected to network. In addition to Windows XP, Vista operating systems, this centre has general software like MS Office 2007, Antivirus and other free software. For day to day computer practicals and literature retrieval from internet, 50 desktops are utilized. For molecular modelling / Drug discovery research activities, NIPER-Hyderabad procured license for a complete suite of Molecular Operating Environment (MOE) software, Chemical Computing Group, Canada. For high performance computing, two work stations are available and are used for free modelling software like AUTODOCK, NAMD etc. This centre is equipped with 2 Mbps broadband internet connectivity with six servers set up in a rack which allows the users to have access to the email, internet and etc. These servers were installed with windows Server 2003 and Linux (Red hat) operating system. Programming compilers including C, C++ and Java have also been installed. Establishment of website, institutional email facility, proxy and for other applications are in progress. NIPER Hyderabad also has access to scientific database i.e. ACS SciFinder. Other computer related accessories including high speed and network laser printer (colour and black & white) and scanners are also available. Computer laboratory remains open from 8.00 AM till 8.00 PM for students and staff.

Instrument Facilities:

Pharmaceutical Analysis department has well equipped laboratories and sophisticated analytical instruments to train the students on latest techniques in pharmaceutical analysis. The department has the following instruments:

High Performance Liquid Chromatography: Prominence, Shimadzu, Japan

Gas Chromatography: GC-2014, Shimadzu, Japan

FT Infra Red Spectrophotometer: Spectrum RXI, Perkin Elmer, USA

UV/Visible Spectrophotometer: V-650, Jasco, USA

Automatic Digital Polarimeter: Chemindia

Analytical Balances: Sartorius, Germany

The institute has a strong support from the Mentor institute: Indian Institute of Chemical Technology, Hyderabad for other advanced instruments like:

Preparative HPLC: LC-8A, Shimadzu, Japan

HPTLC: CAMAG 4.05, Switzerland

CE: Prince CE 460 - Netherlands

LC-MS: Quattro LC, Micromass, UK

GC-MS: 6890 NGC with 5973 inert MSD, Agilent Technologies, USA

MALDI-TOF: KOMPACT SEQ, KRATOS, UK

ESI-QTOF: Q STAR XL Hybrid, Applied Biosystems, USA

NMR: UNITY-400, Varian, Switzerland, etc.

Placement

Ability for communication of one's strength is a cardinal factor in securing an excellent beginning in career. For this purpose, for developing communication skills of the students, NIPER organizes seminars by HR experts, for the final semester students. Eleven students of the 2007-09 batch have been successful in receiving placement in **M/s. Pharmexcil**, **M/s. Biocon Limited**, **M/s Novartis India Healthcare Ltd**, **M/s. Suven Life Sciences Ltd**, **M/s. Database Monitors**. Eleven students were selected for research fellowship in IICT– Hyderabad (Mentor Institute).

Placement Status for 2007-09 Batch Students:

No	Name of the Student	Discipline	Name of the Company
01	Ramaji Varu	Pharmaceutical Analysis	Biocon Ltd, Bangalore
02	Sagar Joshi	Pharmaceutical Analysis	Biocon Ltd, Bangalore
03	Umesh Patel	Pharmaceutical Analysis	Biocon Ltd, Bangalore
04	Priyank Khare	Medicinal Chemistry	Database Monitors, Hyderabad
05	Vikas Garg	Pharmacology & Toxicology	Database Monitors, Hyderabad
06	Rakesh Soni	Medicinal Chemistry	Novartis Healthcare Pvt. Ltd, Hyderabad
07	Parikh Nirali	Medicinal Chemistry	Novartis Healthcare Pvt. Ltd, Hyderabad
08	Vishwajeet Mohan	Pharmacology & Toxicology	Pharmexcil, Hyderabad
09	Deepak Kumar Jena	Pharmacology & Toxicology	Pharmexcil, Hyderabad
10	Chintan Shah	Medicinal Chemistry	Suven Life Sciences Ltd, Hyderabad
11	Mehulkumar Prajapati	Pharmaceutical Analysis	Suven Life Sciences Ltd, Hyderabad

NIPER Library

e-library students using SciFinder

Inauguration of molecular modelling facilities by Shri. Ashok Kumar, Secretary, Dept. Pharmaceuticals, Ministry of Chemicals and Fertilizers, on 06th Feb, 2009

Status for 2007-09 Batch Students for Research fellowship

Eleven students from the 2007-09 batch have been selected for project assistance fellowship funded by NIPER Hyderabad. All the selected students would carry the research projects under the guidance of the noted scientists of IICT.

S.No	Name of the Student	Discipline
1.	Abhinav Kanwal	Pharmacology & Toxicology
2.	Abhishek	Medicinal Chemistry
3.	Akhila	Medicinal Chemistry
4.	Kartik Mangu	Pharmacology & Toxicology
5.	Lokesh Pathak	Medicinal Chemistry
6.	Mahesh Chandra	Medicinal Chemistry
7.	Mohammad Bohari	Medicinal Chemistry
8.	Priyamvada Sharma	Medicinal Chemistry
9.	Ramesh Devi	Pharmaceutical Analysis
10.	Shiv Kumar	Medicinal Chemistry
11	Sulay Patel	Medicinal Chemistry

Research Activities

Medicinal Chemistry

Protein kinases catalyze the transfer of phosphate of ATP to specific hydroxyl group of serine, threonine, or tyrosine residue of cellular substrates including transcription factors, enzymes, etc. The human genomic study reveals that ~2% of total genome constitutes for protein kinases, further sequencing the genome has at least 518 distinct kinases and have been grouped in to ~20 families. The process of phosphorylation is normal in physiological condition however under the pathological conditions the protein kinases can be down regulated, leading to alterations in the phosphorylation and resulting in uncontrolled cell division, inhibition of apoptosis and other abnormalities leading to disease. A number of diseases including diabetes, inflammation, and cancer have been linked to unregulated protein kinase mediated signaling pathways.

The use of small-molecule inhibitors of protein function is one of the most efficient ways to treat human disease including malignancy. Kinases have become important molecular targets in cancer therapy and other diseases and they are considered as attractive targets for drug discovery next to G protein coupled receptors. The existing drug molecules such as Gleevec, Iressa and Tarceva have demonstrated prolific effects in controlling cancer with maximum safety. Kinases such as Abl, EGFR, VEGFR, PDGF, Src, B-raf, Aurora, etc, have become attractive targets for medicinal chemists in the discovery of novel drug molecules in cancer treatment. Most of the kinase inhibitors interact with kinase at the conserved ATP binding region (ATP competitive kinase inhibitors). This structural conservation in particular kinases is grouped into families which share similar structural features and folding and is often responsible for the untoward effect which may be due to cross interactions leading to fatalities.

Promiscuous inhibitors are those which suffer with side effects. An anticancer drug imatinib (**STI571**) with activity profile against five kinases (Abl, C-Kit, Lck, PDGFR, and CSFIR) has been found to exhibit potential cardiac toxicity. Similar kind of cardiovascular toxicities have been demonstrated by promiscuous kinase inhibitors such as **SU11248** and Sorafenib (**BAY 43-9006**). The new kinase inhibitors may potentially enable the selective regulation of specific protein kinase associated with a particular disease but without affecting other protein kinase involved in normal physiology.

Various analogues containing urea group have been synthesized and evaluated for p38 kinase inhibitory activity. Some of the inhibitors have also exhibited potent *in vivo* anti-inflammatory activity. Molecular docking studies of urea derivatives have indicated similar binding interaction profile as depicted by the clinical candidate possessing p38

kinase inhibitory activity. The urea derivatives have been further modified to keto amides and the activities are awaited.

The common strategy of anticancer drug discovery has been to unravel the biological pathway by which an effective anticancer agent modulates and use this knowledge in the mechanism based drug discovery program. This has been achieved both through the natural product screening and chemical synthesis. The development of new therapeutic agents, as well as the identification of molecular probes for the study of the chemical/biological interfaces, is one of the major goals in biomedical research. In this context, the availability of large libraries of small organic molecules, covering as much chemical space as possible, is seen as the only means which guarantees potential modulation of the many biological targets that are ultimately being unveiled by genomics.

The renewed interest on podophyllotoxin as an anticancer drug started in 1950s and much work has been done by Sandoz Laboratories Basel, Switzerland. Three semisynthetic derivatives of podophyllotoxin, etoposide (VP-16), teniposide (VM-26) and etopophos, are widely used as anticancer drugs and show good clinical effects against several types of neoplasms including testicular and small-cell lung cancers, lymphoma, leukaemia, Kaposi's sarcoma, etc. However, several limitations such as myelosuppression, development of drug resistance and cytotoxicity towards normal cells, still exist. To a greater or lesser extent, this general profile applies to cytotoxic agents from a wide range of mechanistic classes e.g., alkylating agents, DNA intercalators, antifoliates, tubulin binders, topoisomerase inhibitors, this includes many of the best known and most widely used anticancer drugs, such as etoposide, doxorubicin, methotrexate and cisplatin etc.

Metabolic studies of podophyllotoxin have given some insights into its mechanism of action. VP-16 has been found to undergo *O*-demethylation by rat and mouse liver microsomes and purified rat liver cytochrome P-450 to produce the *O*-dihydroxy or catechol of VP-16. Several enzymatic systems *viz.* rat liver microsomes/NADPH, horse radish peroxidase/H_2O_2, prostaglandin synthase/arachidonic acid, myeloperoxidase/H_2O_2 metabolize VP-16 to produce capable of irreversible binding to proteins and DNA, which has been showed to be the quinone derived from the corresponding alcohol. The metabolism of VP-16 in isolated perfused rat liver has been studied, this finds the presence of glucoronides in the bile of VP-16 perfused liver indicating that VP-16 undergoes conjugation with glucoronic acid and the formation of the microisomer of VP-16 in the liver has also been observed. The N-demethyl compound is the major metabolite of dimethylamino etoposide (NK 611). Top-53 glucoronide is found to be the major metabolite of TOP-53, a new podophyllotoxin derivative.

Most of the lignans inhibit the polymerization of tubulin and DNA topoisomerase II enzyme. Studies on Structure-Activity Relationship (SAR) have shown that

podophyllotoxin like compounds preferentially inhibit tubulin polymerization, which leads to arrest of the cell cycle in the metaphase. However, etoposide like compounds are potent irreversible inhibitors of DNA topoisomerase II and their action is based on the formation of nucleic acid-drug-enzyme complex, which induces single- and double-stranded DNA breaks, as the initial step in a series of biochemical transformations that eventually lead to cell death.

In continuation of above findings, the new 4β-anilino substituted podophyllotoxin congeners have been synthesized and are evaluating for their anticancer potential. These new compounds might inhibit better tubulin polymerization.

Drug design is an iterative process which begins when a chemist identifies a compound that displays an interesting biological profile and ends when both the activity profile and the chemical synthesis of the new chemical entity are optimized. Traditional approaches to drug discovery rely on a step-wise synthesis and screening program for large numbers of compounds to optimize activity profiles. Over the past ten to twenty years, scientists have used computer models of new chemical entities to help define activity profiles, geometries and reactivities.

One of the basic tenets of medicinal chemistry is that biological activity is dependent on the three-dimensional placement of specific functional groups (the pharmacophore). Over the past few years, advances in the development of new mathematical models which describe chemical phenomena and development of more intuitive program interfaces coupled with the availability of faster, smaller and affordable computer hardware have provided experimental scientists with a new set of computational tools. These tools are being successfully used, in conjunction with traditional research techniques, to examine the structural properties of existing compounds, develop and quantify a hypothesis which relates these properties to observed activity and utilize these "rules" to predict properties and activities for new chemical entities. The development of molecular modeling programs and their application in pharmaceutical research has been formalized as a field of study known as computer assisted drug design (CADD) or computer assisted molecular design (CAMD).

Identifying a protein's shape, or structure, is key to understanding its biological function and its role in health and disease. Illuminating a protein's structure also paves the way for the development of new agents and devices to treat a disease. Yet solving the structure of a protein is no easy feat. It often takes scientists working in the laboratory months, sometimes years, to experimentally determine a single structure. Therefore, scientists have begun to turn toward computers to help predict the structure of a protein based on its sequence. The challenge lies in developing methods for accurately and reliably understanding this intricate relationship

Scientists know that the critical feature of a protein is its ability to adopt the right shape for carrying out a particular function. But sometimes a protein twists into the wrong shape or has a missing part, preventing it from doing its job. Many diseases, such as Alzheimer's and "mad cow", are now known to result from proteins that have adopted an incorrect structure. These issues some extent can be addressed with the aid of molecular modeling software.

Computer simulations or molecular dynamics can be carried out in the hope of understanding the properties of assemblies of molecules in terms of their structure and the microscopic interactions between them. This serves as a complement to conventional experiments, enabling us to learn something new, something that cannot be found out in other ways. Computer simulations act as a bridge between microscopic length and time scales and the macroscopic world of the laboratory: we provide a guess at the interactions between molecules, and obtain 'exact' predictions of bulk properties. The predictions are 'exact' in the sense that they can be made as accurate as we like, subject to the limitations imposed by our computer budget. At the same time, the hidden detail behind bulk measurements can be revealed.

Research activities include identification of small molecule inhibitors with the aid of molecular modeling software, understanding of electronic states and mechanistic study of reactivity of organic molecules.

The prion protein (PrP) is responsible for a group of neurodegenerative diseases called the transmissible spongiform encephalopathies. To study the intrinsic structural properties of three human prion protein (PrP) ∝-helixes and to analyze their stability, application of molecular dynamics simulations are in progress. Identification of small molecule inhibitors for prion protein with the help of molecular modeling tools are in progress.

Pharmaceutical Analysis

The Pharmaceutical Analysis department is upgrading its existing facilities and procuring various instruments like HPTLC, Preparative HPLC, CE, LC-MS, LC-MS/MS, GC-MS, NMR to do advanced research work for analysis of drugs and pharmaceuticals.

1) Drug Impurity Profiling

Drug impurity profiling, i.e. identification, structure elucidation and quantitative determination of impurities and degradation products in bulk drug materials and pharmaceutical formulations is one of the most important fields of activities in modern pharmaceutical analysis. The reason for the increased importance of this area is that

unidentified, potentially toxic impurities are health hazards and in order to increase the safety of drug therapy, impurities should be identified and determined by selective methods.

The main focused research areas of the department are separation and determination of impurities of known structure, off-line and on-line chromatographic - spectroscopic methods for the structure elucidation of impurities and degradation products as well as some analytical aspects of enantiomeric purity of chiral drugs.

2) **Stability Studies**

Stability indicating methods are quantitative test methods that can detect changes with time of drug substances and drug products. Information of type and amount of degradation products over time is important for safety of drugs. The use of such methods is appropriate when there is an intention to document drug substance or drug product stability. It is immaterial if such documentation is generated to support a regulatory submission such as an Investigational New Drug Application (IND), Drug Master File (DMF) or an (A)NDA or generated to satisfy cGMP requirements for a non-application drug substance or drug product.

3) **Analysis and Standardization of Herbal Drugs**

When herbal medicines are concerned, there are always hundreds of components and many of them are in minute quantities. On the other hand, there usually exists variability within the different and even the same herbal materials. Consequently, to obtain reliable chromatographic fingerprints that represent pharmacologically active and chemically characteristic components is not a trivial task. The performance of a chromatographic fingerprint obtained is closely dependent on the chromatographic separation degrees and concentration distribution of all chemical components in the herbal medicine investigated. Furthermore, the recent approaches of applying hyphenated chromatography and spectroscopy such as high performance liquid chromatography-diode array detection (HPLC-DAD), gas chromatography-mass spectroscopy (GC-MS), HPLC-MS and HPLC-NMR could provide the additional spectral information, which will be very useful for the qualitative analysis and even for the on-line structural elucidation.

4) **Drug Metabolism Studies**

Metabolite identification studies provide critical information on drug candidates, these studies have typically been reserved for compounds late in the development phase. These studies are not amenable to high throughput as each compound will

give a different metabolic profile, and evaluation of the data can be a lengthy and labor-intensive process. Traditional studies require radio labelled compounds, synthetic standards of potential metabolites, and sophisticated analytical instrumentation. However, with the recent advances in analytical technology and software programs, metabolite identification studies are now playing a pivotal role in the discovery phase of new drug entities. Early identification of metabolic "hot spots" in a particular structural series provides valuable information to the medicinal chemists and can drive the progression of chemical structures in a particular therapeutic program. In addition, early characterization of potentially active or toxic metabolites can direct a program to more potent and safe recommendation candidates. Analytical techniques, available in the discovery phase, are described for the early characterization of metabolites, focusing on the use of liquid chromatography-tandem mass spectrometry (LC-MS/MS), and the advances in software programs to aid the analyst in critically and rapidly evaluating the data produced. The focus is on small molecule applications.

5) **Bioanalytical Method Development**

The development of sound bioanalytical methods is of paramount importance during the process of drug discovery and development culminating in a marketing approval. Bioanalysis, employed for the quantitative determination of drugs and their metabolites in biological fluids, plays a significant role in the evaluation and interpretation of bioequivalence, pharmacokinetic and toxicokinetic studies. Selective and sensitive analytical methods for quantitative evaluation of drugs and their metabolites are critical for the successful conduct of pre-clinical and/or biopharmaceutics and clinical pharmacology studies. The determination of drug concentrations in biological fluids yields the data used to understand the time course of drug action, or pharmacokinetics, in animals and human and is an essential component of the drug discovery and development process.

Pharmacology and Toxicology

The major research areas of the department are

1) Identifying the novel drug targets in the management of pain

2) Scientific validation of different Indian traditional medicinal plants for tracing anti-arthritis, anti-convulsant and anti-diabetic activities.

3) Screening of new chemical entities for anti-cancer activity.

4) Assess the combination drug therapy in disorders like hepatic encephalopathy, hepatitis and diabetes mellitus

Diabetic Complications:

Major complications of diabetes in human are of two types (Type I & II) and they are again subdivided as follows:

1. Acute Complications: a) Hypoglycaemia; b) Hyperglycaemia; c) Ketoacidosis

2. Chronic Complications: a) Neuropathy; b) Nephropathy; c) Cardiovascular complications (Atherosclerosis, Myocardial Infarction, Hypertension); d) Gastro intestinal complications (Oesophageal complications, Gastric complications).

Diabetes may be produced experimentally by means of surgery, viral infection or the administration of various hormones and chemical agents. Spontaneous diabetes is a common occurrence in many animal species. The most common diabetes syndromes in animals occur in the context of obesity, hyperinsulinemia and insulin resistance. Many such syndromes remit spontaneously. Dietary restriction and weight reduction effectively reverse some of these syndromes, but in other cases only partial correction of the syndrome occurs. Diabetes in lean animals is less common. The diabetes of lean animals is more frequently characterized by hypoinsulinemia, ketosis and insulin dependence than is the case with obese animals. Genetically 'knock out' mice are produced that will disrupt the normal gene. This is then given to the pseudo pregnant mice to produce desired type of diabetes in the mice.

STZ (Streptozotocin) and alloxan induced models are chemically employed models in rat for diabetes. Streptozotocin is a nitrosurea derivative isolated from *Streptomyces Achromogenes* with broad-spectrum antibiotic and anti-neoplastic activity. A large dose of STZ produces diabetes but it may be due to side effects. Thus, multiple smaller doses are given, which may lead to insulitis and β-cell death.

Alloxan and the product of its reduction, dialuric acid, establish a redox cycle with the formation of superoxide radicals. These radicals undergo dismutation to hydrogen peroxide. Thereafter highly reactive hydroxyl radicals are formed by the Fenton reaction. The action of reactive oxygen species with a simultaneous massive increase in cytosolic calcium concentration causes rapid destruction of β-cells.

Major emphasis of work is concentrated in dealing with the complications of diabetes these days. Identifying the pathogenesis of the complication also is a very important in order to go for further study. These can be checked *in vitro* using organ tissue to check

particular complication. Organ bath studies using a diabetic induced rat or mice may lead to many possibilities. For example, using specific beta adrenoreceptor agonists and antagonists, on the stomach fundus tissue of a diabetic induced rat model, it can be identified that due to neuropathy in diabetes, it damages beta adrenoreceptors present in the stomach fundus. Similarly it can be done on all possible tissues of the complicated areas available and then can go to further studies for cell lines and *in vivo* etc.

A study on evaluation of antidiabetic activity of thienopyridine derivatives observed that BN-13 and BN-14 were found to posses maximum antidiabetic activities in the *in vivo* starch loaded models in rats, by inhibiting alpha glucosidase enzyme. Evaluation of suitable type-II diabetes model to investigate diabetic kidney disease is being worked in order to identify some complications related to nephropathy and potential therapeutic intervention. Few potential antidiabetic drugs like Iptakalim sulfonylurea are being compared and evaluated. Effect of atorvastatin alone and in combination with curcumin/ berberine in metabolic abnormalities in type II diabetic rats is being observed.

Relief of Pain

Pain is an unpleasant subjective sensation which is having a complex mechanistic pathways like involvement of many pain mediators such as bradykinin; neurotransmitters like serotonin, local hormones like histamine many peptides and ion channels . The role of Calcium channel in pain was extensively studied by using formalin induced models of pain; as a result of this there is a need to understand the mechanism by which the pain is produced. The institute is trying to understand the science to explore a new drug target for the relief of pain.

Rheumatoid Arthritis (RA)

RA is a chronic and progressive inflammatory disorder, characterised by synovitis and severe joint destruction. The pathogenesis of RA is a complex process, involving synovial cell proliferation and fibrosis, pannus formation, and cartilage and bone erosion. This process is mediated by an interdependent network of cytokines, prostanoids and proteolytic enzymes. Pro-inflammatory cytokines, such as interleukin-1 (IL-1) and tumour necrosis factor-alpha (TNF-∞), are central mediators in RA. We are scientifically validating different traditional medicinal plants like Sarcostemme acdium etc. Many of these traditional drugs are showing anti-rheumatoid action by modulating the signalling mechanisms of immune system. The wok in the department involves identifying the anti rheumatoid drug from Indian traditional plants. A multi-target *in-vitro* test has been developed. However a few plants are showing anti- rheumatoid action in multi-assay screens.

Hepatic Encephalopathy

Liver disease can manifest in many different ways. Characteristic manifestations include jaundice, cholestasis, liver enlargement, portal hypertension, ascites, liver failure and hepatic encephalopathy. Hepatic encephalopathy continues to be a major clinical problem and the current decade has not witnessed major therapeutic breakthroughs in this area. Hepatic encephalopathy is condition in which deterioration of brain function due to build up of toxic substances normally removed by the liver. The department is aimed to assess the effectiveness and safety of L-Ornithine-L-Aspartate in the management of hepatic encephalopathy in CLF patients. We are using a method to perform a meta-analysis of randomized controlled trials of LOLA therapy for hepatic encephalopathy.

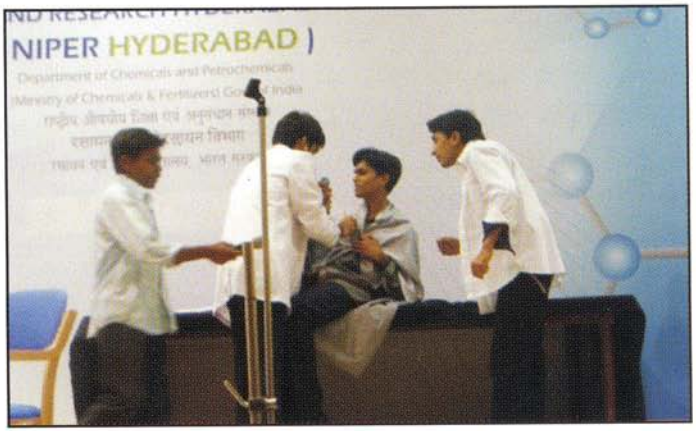
Alcoholic Hepatitis

Alcohol hepatitis is an acute or acute-on-chronic hepatic inflammatory response syndrome, which is art of the spectrum of diseases that result from alcohol-induced liver injury, ranging from the most common symptomatic fatty liver to fulminant hepatitis and cirrhosis in the long term. However, it is difficult to predict the clinical response in an individual patient, as only a minority of individuals consuming large amounts of alcohol develop alcoholic hepatitis. Although many individual studies are available on the efficacy of pentoxyfylline and prednisolone in the treatment of severe alcoholic hepatitis, no study has compared the two drug head to head in randomised controlled study. We are comparing the efficacy of pentoxifylline and prednisolone in the treatment of severe alcoholic hepatitis, and evaluating the role of different liver function scores in predicting prognosis.

Screening of New Chemical Entities as Anti-Cancer Agents

Cancer is term that encompasses a complex group of more than 100 different types of cancerous diseases. Cancer can affect just about every organ in the human body. Many people are surprised to learn that cancer can affect parts of the body like eyes and the heart.

Each type of cancer is unique with its own causes, symptoms, and methods of treatment. Like with all groups of disease, some types of cancer are more common than other. The institute is committed to screen the new chemical entities for anticancer activity with the collaboration of mentor institute, IICT Hyderabad. This screening utilizes different human tumour cell lines, representing leukaemia, melanoma and cancers of the lung, colon, brain, ovary, breast, prostate, and kidney. The aim is to prioritize for further evaluation of, synthetic compounds or natural product samples showing selective growth inhibition or cell killing of particular tumour cell lines. This screen is unique in that the complexity of a different cell line dose response produced by a given compound results in a biological response pattern.



Fresher's Day celebration on 4th Oct, 2008

Students of Pharmacology and Toxicology visited animal house facilities at IICT

Holi festival celebration in NIPER Hostel 15th Mar, 2009

Research Publication:

NIPER Hyderabad marched ahead in publications. The faculty and students of this institute contributed publications with inputs from project work.

1. Mehul Kumar P, Srinivas R, Ramesh V, Vinay Kumar V, Diwan P. V. Simultaneous determination of amlodipine besylate and olmesartan medoximil in tablets by zero crossing first derivative UV spectrophotometry and high performance liquid chromatography. *Asian J Res. Chem.* **2009**, *2*, 4169.

2. Deepak Kumar J, Vishwajeet Mohan, Appaji PV, Srinivas L, Balaram P. Presence of Indian Pharmaceutical Industries in US Market: An Empirical Analysis. *Journal of Generic Medicines*. **2009**, *6*, 333.

3. Shaheen Begum, Satya Parameshwar, Kulkarni RG, Achaiah G. 3D QSAR Studies on Benzoxazoles and Oxazolo-(*4,5-b*) pyridines as Anti-fungal agents. *Internat. J. Pharma. Sciences and Nanotech.* **2009**, *18*, 413.

4. Partha Sarathi S, Ravinder M, Arun Kumar P, Jayathirtha Rao V, Photochemical dehydrogenation of 3,4-dihydro-2-pyridones. *Photochemical and Photobiological Sciences*, **2009**, 8, 513.

5. Ravinder M, Partha Sarathi S, Jayathirtha Rao V. Simple, facile and one-pot conversion of the Baylis–Hillman acetates into 3,5,6-trisubstituted-2-pyridones. *Tetrahedron Letters, **2009**, 50*, 4229.

6. Gangadasu B, China Raju B, Jayathirtha Rao V. Synthesis of Imidacloprid Analogues from Novel Chloronicotinaldehydes *J. Heterocyclic Chem.* **2009** *(Accepted).*

7. Arun Kumar P, Raman D, Murty U. S. N, Jayathirtha Rao V. Concise synthesis of stagonolide-F by ring closing metathesis approach and its biological evaluation. *Biorg.Chem., **2009**, 37*, 46.

8. Narender P, Ravinder M, Partha Sarathi S, China Raju B, Ramesh Ch, Jayathirtha Rao V. Synthesis of Substituted 1,8-Naphthyridine-3-carboxylates from *Baylis-Hillman* Adducts of Substituted 2-Chloronicotinaldehydes. *Helv.Chimica Acta,2009, 92,959*

9. Srinivas Ch , Sai Pavan Kumar Ch. N. S, China Raju B, Naidu V. G. M, Ramakrishna S, Diwan P. V, Jayathirtha Rao V. First stereoselective total synthesis and anticancer activity of new amide alkaloids of roots of pepper. *Bioorganic & Medicinal Chemistry Letters,* 2009, (In Press).

10. Arun Kumar P, Raman D, Murthy U.S.N, Jayathirtha Rao V. Stereoselective synthesis of (+)-nephrosteranic acid - by ring-closing metathesis approach and its biological evaluation. *Synthetic communications **2009***, (Accepted)

List of Master s Thesis titles of 2007-09 batch

The students of 1st batch M. S (Pharma), completed their master dissertation work at various laboratories including IICT Hyderabad, have submitted thesis on 30th June, 2009.

Medicinal Chemistry

Name of the Student	Title of the Topic
Abhishek Kumar	Synthesis and Biological Evaluation of Nucleo Ba
Akhila M	Synthesis of N^4 Dialkyl Derivatives of Asparagine.
Amrapali Dangeda	Method Development Using Heterogeneous Catalyst, Synthesis And Evaluation of Biological Activity of Dioxadispiroketal Analogues of Aculeatin
Ashish Baseta	Development and validation of a high throughput (UPLC-MS/MS) method for quantification of Nifedipine in human plasma matrix & its application in bioequivalence study
Chintan Shah	Development and Validation of a high throughput & UPLC-MS/MS for quantification of Terbinafine in human plasma-Application to a bioequivalence study.
Lokesh Pathak	Design And Synthesis of Novel Aurora-A Kinase As Anticancer Agent.
Mohammad Bohari	Synthesis of Novel Dialkyl Deoxy Analogue of Asparagine
Mahesh Chandra B	Synthesis And Evaluation of Timilignan Analogs.
Mahesh Nasare	Synthesis of Key Intermediates For Bioactive Molecules.
Nidhi Goel	Synthesis Of Eponemycin Analogue – A Specific Inhibitors of Lmp-2 Catalytic Site Present in Immunoproteasomes.
Nirali Parikh	Development and Validation of Bioanalytical Method by HPLC.
Priyamvada	Rational Synthesis and Biological Evaluation of Simplified Analogues of Marine Macrolide Neopeltolide.
Priyank Khare	Molecular Modelling Studies and Computer Aided Drug Design Strategies to Model Different Phosphodiesterase's Inhibitors

One day seminar with the title "Changing trends in animal Experimentation" on 12th Sept, 2008

One day Conference of Royal Society of Chemistry (London) "Chemistry to medicin" on 21st November 2008, Shri. Ashok Kumar, Secretary, Dr. P V Diwan then Project Director NIPER Hyderabad were present

One day conference of Royal Society of Chemistry (London) "Organic Chemistry- Its importance in Industry and Health" on 3rd February 2009, Dr. P V Diwan and Dr. V Peesapati released the souvenir

Rakesh Soni	Synthesis and Evaluation of Pyridine compounds as Antidote to Organophosphate Poisoning
Ranjita Nayak	Synthesis of Key Intermediates For Rivastigmine.
Sagarika Panda	Evaluation of Metered Dose Inhaler (Mdi) Aerosol Product of A Combination of Two Generic Anti-Asthmatic Drugs.
Sandeep Kadasi	Synthesis of β-Amino Acid and Its Foldamer and to Check Its Biological Activity.
Shiv Kumar	Molecular Modelling Studies and Computer Aided Drug Design Strategies to Model Different Phosphodiesterase's Inhibitors
Sulay Patel	Synthesis of Nucleoside Analogues and Its Biological Evaluation.
Vinod Kumar	Synthesis of C-2,C-8,N-9 Trisubstituted Purine Analogues As Aurora-A Kinase Inhibitor As Anticancer Agents.

Pharmaceutical Analysis

Name of the Student	Title Of The Topic
Anil Kumar Meena	Development and Validation of A Reversed-Phase Liquid Chromatographic Method For Simultaneous Estimation of The Anti-Hypertensive Drug In Bulk.
Eranna Dopadally	Simultaneous Determination of 6 Anti-Hypertensive Drugs - Ramipril, Lisinopril, Losartan, Valsartan, Olmesartan and Hydrochlorothiazide.
Maninder Kaur	Preparation And Characterization of Chitosan Nanoparticles For Drug Delivery Application.
Mehul Kumar	Simultaneous Determination of Amlodipine And Olmesartan In Tablet Dosage Form By UV Derivative And HPLC Method
Paradeep Dahiya	Synthesis of Silica Xerogel And Silica Nanoparticles Their Application As A Drug Delivery System.
Rahul Janabandhu	Formulation of Solid Lipid Nanoparticles of Some Drug.
Rahul Nahire	Validated Specific Stability Indicating Assay Method (Siam) For Simultaneous Determination of Amlodipine Besylate And Valsartan In Bulk And Commercial Dasage Form Using ICH Guidelines.
Ramesh Devi	Analytical And Bioanalytical Method Development and Validation of Selected Class of Drugs and Their Combinations By RP-HPLC.
Ramji Varu	Quality By Design In Process And Product Development, Case Study, Regulatory Challenges And Opportunities To Implement Quality By Design (QBD) Concept.
Sagar Joshi	Spectophotometric and stability indicating HPLC assay method for binary of Metformin and Repaglanite
Umeshkumar Patel	Development Of Validated Stability Indicating Hplc Method For The Simultaneous Determination Of Stavudine And Lamivudine From The Combination Drug Product.

Pharmacology and Toxicology

Name of the Student	Title Of The Topic
Abhinav Kanwal	To evaluate the platelet aggregation inhibitory action of common herbs used in daily life.
Ashish Upadhay	Induction of Streptozotocin – induced type I diabetes in rats and factors causing variation in induction of type I diabetes in rats by Streptozotocin.
Brij Mohan Singh	Combined anti-inflammatory activity of curcumin and prednisolone in rat arthritic model.
Deepak Kumar Jena	Indian Pharmaceutical Industry in Global context.
Dhansingh Meena	Scientific Validation of Traditional Medicinal Plant (Sarcostemma acdium) for Rheumatiod Arthiritis.
Karthik Manghu	Scientific validation of traditional medicinal plants for Immunomodulation activity and tracing the signaling pathway.
Sanwarmal	Calcium channels as a Targets for the relief of pain in formalin induced model of pain.
Varsha Meghani	Calcium channels as aTargets for the relief of pain in formalin induced model of pain.
Veshwajeet Mohan	Indian Pharmaceutical Industry in Global context.
Vikas Garg	Valuation of anti-convulsant activity of Ascorbic acid in PTZ induced kindling model of Epilepsy.

Names of students who stood first in their respective discipline

Listed are the three students who secured the first place in their respective disciplines

S. NO	Name of the student	Discipline
MC-2007-04	Ranjeeta Nayak	Medicinal Chemistry
PA-2007-02	Mehul Kumar	Pharmaceutical Analysis
PT-2007-04	Kartik Mangu	Pharmacology & Toxicology

AWARDS AND HONOURS

Dr. Ahmed Kamal Project Director, NIPER-Hyderabad, has received OPPI best scientist award for 2009 from Dr Abdul Kalam former President of India, conferred by Organization of Pharmaceutical Producers of India (OPPI), on 8th Aug, 2009

Dr. Ravindra Kulkarni, Faculty, NIPER- Hyderabad, has been awarded Gold Medal on 14th Aug, 2008 from Luqman College of Pharmacy Gulbarga, Karnataka for being topper from the institute.

Dr. Hanne Xue, Hong Kong University, China-Delivered lecture on "Drug Development for CNS Disorders". Dr. Harish Padh, The Project Director NIPER Ahmedabad is also present on 29th Sept., 2008 at NIPER Hyderabad

Dr. Saranjeet Singh and Shri. R C Jha Visit to NIPER Hyderabad, Dr. Singh Delivered lecture on "Importance of Pharmaceutical Analysis-The Future" on 10th Jul, 2008 at NIPER Hyderabad

Teacher's day celebration on 05th Sept, 2008 at NIPER Hyderabad.

Invited speakers:

Eminent scientists and professors from industries, research laboratories and academic institutes visited NIPER Hyderabad, delivered the extension lectures.

S. No.	Date	Name of guest lecture and topic
01	06th Aug, 2008	Dr. B. K. Sahay -Delivered lecture on :Yoga and Diabetes Dr. Rajeev Arab, IICT, Hyderabad-Delivered lecture on: Healthy life- Style.
02	23rd Aug, 2008	Dr. VSV Vadlamudi Rao, Vice-President, R&D, Nektar Therapeutics, India Limited, Hyderabad -Delivered lecture on Drug discovery- Key drivers for target identification.
03	06th Sept, 2008	Dr. Mohammed Majid, Sollner Webb Laboratory, Dept. Biological Chemistry, John Hopkins University, Baltimore, USA-delivered lecture on "Utility of transiently transfected plasmids in studying sub-nuclear DNA localization"
04	29th Sept, 2008	Dr. Hanne Xue, Director Applied Xenomic Centre, Hong Kong University, China-Delivered lecture on "Drug Development for CNS Disorders"
05	26th Nov, 2008	Dr. Deepak Agarwal, Deputy Director, IITR, Lucknow: OECD Principles of good laboratory practice
06	15th Dec, 2008	Dr. Sujatha DS, Director Product Development, Skinmedica, USA. "Pharmaceutical product development process concept to commercial launch"
07	06th Jan, 2009	Dr Shiv Shankar Dept. of Psychopharmacology, Western University of Health Sciences USA. "Clinical Psychopharmacology-what every medical health professional leads to now"

08	20th Jan, 2009	Dr. Srinivas Rao New York USA, "Academic Scientist Vs Industrial Scientist"
09	06th Feb, 2009	Dr. Kamalesh Chauhan, USDA-ARS Maryland USA, "Recent Research Findings of his Group"
10	19th Feb, 2009	Dr Chandra Koli, California North state College of Pharmacy USA, "Soluble Micro needles for Transdermal delivery"
11	21st Feb, 2009	Dr. Ranjini Nellore President, PharmaMantra Consultant, Hyderabad. "Role of Regulatory affairs personnel, career prospects and professional development cost"
12	17th Apr, 2009	Dr Andrew Miller, London "What can Chemistry do for Biology and Medicine"
13	31st Jul, 2009	Prof. Rene Gree, Director, CNRS, Univ. of Rennes, France. "Fluorinated chemicals in chemistry"

Students and faculty participated in Bio Asia 2009 held on 2nd to 4th Feb, 2008 Hyderabad

Mr Roshan Borkar students of Pharma. Analysis presenting poster in "Young Researchers' Conference -Young Innovative Choice Competition 2009" at UDCT Mumbai on 23rd -28th Jan, 2009

Students of NIPER Hyderabad were discussing about the query assigned in "Young Researchers' Conference -Young Innovative Choice Competition 2009" at UDCT Mumbai on 23rd -28th January, 2009

Seminars/Workshops organized in NIPER Hyderabad

S. No	Name of the seminar	Date
1.	Royal Society of Chemistry (London) "**Chemistry to medicine**"	21st Nov, 2008
2.	Royal Society of Chemistry (London). "**Organic Chemistry ˘ Its Importance in Industry and Health*f***"	03rd Feb, 2009

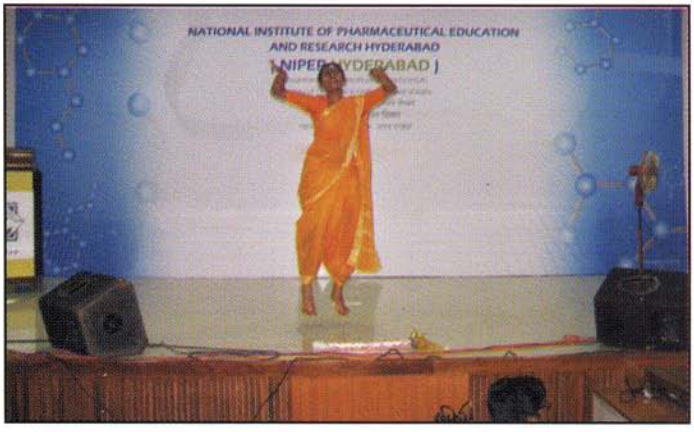
Students and staff participation in conferences and seminars

Students and staff of NIPER Hyderabad participated in various conferences and seminars held at various places in India.

S. No	Name of the conference or seminar and venue	Date	Participant
01	Basic principles of GLP*f*-NIN Hyderabad	04th Sept, 2008	Faculty and project assistants
02	Changing Trends On Animal Experimentation*f* **-Jai Research Foundation**	12th Sept, 2008	Students and Faculty
03	Asian symposium on medicinal plants, species and other natural products (ASOMPS) XIII- 2008*f*- **IICT Hyderabad**	03rd to 5th Nov, 2008	Faculty and students
04	"Using the power of Empower?*f* **-Waters Hyderabad**	19th Nov, 2008	Faculty
05	Indian Pharmaceutical Congress*f* - **New Delhi**	18th to 20th Dec, 2008	Students
06	Indian Pharmacological Society*f* - **AIIMS New Delhi**	Dec, 2008	Students
07	USP annual meeting 2008-09*f*	27th to 29th Jan, 2009	Students
08	Global Bio Business Forum*f* **-Bio Asia Hyderabad**	2nd to 4th Feb, 2009	Faculty and Students
09	Green Chemistry*f*- JNTU Hyderabad	March 2009	Students
10	Young Researcher's conference*f* **- UDCT Mumbai**	23rd -28th Jan, 2009	Students
11	BioCamp 2009-Novartis Biotechnology Leadership Camp*f*- **Novartis Hyderabad**	11-12th Aug, 2009	Hrishikesh Dhongade II Sem

Dr. J S Yadav, Director IICT Hyderabad, releasing NIPER Souvenir "VEDEM 2009" on 6th Feb, 2008

Delegates of United States Pharmacopoeia visited NIPER Hyderabad on 12th Feb, 2009



Cultural programs on the occasion of freshers day

List of dignitaries visited NIPER Hyderabad

Noted dignitaries from academia, research organizations and administration visited . NIPER Hyderabad for delivering lectures in the pharmaceutical sciences and business.

S. No	Name of visitor	Date
01	USP Delegates	12th Feb, 2009
02	Shri Malay Mishra, Ambassador Designate, Trinidad	12th Feb, 2009
03	Prof. Andrew Miller Prof. Organic Chemistry & Biology, Imperial College of Genetic Therapies, London	17th Apr, 2009
04	Prof. Rene Gree, Director, CNRS, Univ. of Rennes, France	31st Jul, 2009

DRUGS AND PHARMACEUTICALS RESEARCH AT IICT, HYDERABAD.

DRUG R&D CORE AREAS & OTHER ACTIVITIES

- Contact Research Programmes undertaken with Indian & Overseas companies on request.
- Development of processes & technologies for drugs & drug intermediates, speciality & value added chemicals.
- Development of new synthetic methodologies for natural products phytochemistry, new bioactive molecules, herbal drugs and their standardization.
- New Chemical entities (NCEs) for therapeutic areas of anticancer, antiviral, anti-HIV, antifungal, anti-inflammatory, antiulcer, antihypertensive & Alzheimer's.
- Bioinformatics and Biotechnology products.

Knowledge Based Services

- Molecular modelling for drug design.
- Combinatorial libraries for analoging
- Drug Master Files
- Chemical Finger printing
- Approved Laboratory for Drugs/Cosmetic Testing
- Integrated Information System for control of Vector Borne Diseases.

Chemical & Intrumentation Facilities

- Solid-liquid extractors and Evaporators
- Accelerated Solvent Extractor
- Fractionation Columns
- Molecular/Short Path Distillation
- Freeze Drying
- Cominatorial Synthesizers
- Chemical Respository/Compound Storage Facility
- FT-NMR (400, 500 & 600 MHZ)
- LC-MS-MS
- GC & GC-MS
- Toxicology and Entomology
- Sep Box
- ICP-MS
- SMB Chromatography
- MS/Q-TOF
- Electrophoresis
- HPTLC/Bioilluminizar
- Chem Speed Auto Synthesizer
- TLC/FID
- Multi Organic Synthesizer
- HPLC
- XRD/Single Crystal X-Ray Crystallography
- Molecular Modeller
- Pharmacological Screening
- Bio-Equivalence & Pharmocokinetic Studies

For further details contact:
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