

Mission & Vision

- Provide leadership in pharmaceutical sciences
- Advanced research in new and emerging areas
- National/international collaborative research
- Human resource development
- Media and curriculum development
- Establishment of National Centres
- Sponsored projects
- Promotion of community and institutional pharmacy
- Study of sociological aspects of drug use

Value
through innovation



*National Institute of
Pharmaceutical Education and Research (NIPER-S)*

Sector 67, SAS Nagar (Mohali) Punjab - 160 062
Tel : 91-172-2214682-2214687 Fax: 91-172-2214692
E-mail : director@niper.ac.in
Website : www.niper.gov.in



*National Institute of
Pharmaceutical Education and Research*
S.A.S. Nagar (NIPER-S)

niper



National Institute of Pharmaceutical Education and Research at S.A.S. Nagar (NIPER-S) is the first national level institute in India in pharmaceutical sciences with a proclaimed objective of becoming a centre of excellence for advanced studies and research in pharmaceutical sciences. The success of NIPER-S has facilitated the setting up of six more similar Institutes* out of which four have already started functioning. With its internationally recognized expertise in drug target identification, validation, lead generation and optimization, impurity profiling, formulation and pre-clinical studies, NIPER-S is looking forward to explore the possibility of establishing collaborations with pharmaceutical industries in all aspects of drug discovery and development.



* Already started at Ahmedabad, Hajipur, Hyderabad and Kolkata
To be started at Guwahati and Rae Bareilly

Drug Discovery

- Lead generation by synthetic (CombiChem facility and solid-phase peptide synthesizer) route and/or from natural products
- Computer-aided drug design, pharmacophore modeling and virtual screening of molecules (using molecular modeling packages such as SYBYL, PC SPARTAN PRO, CHEM-X, AMBER, Gaussian 98, Protein Data Bank, Alchemy, etc.)
- ADME and Tox screening of compounds using computational tools
- Target identification using biological routes: Transmembrane signalling cascades in normal and pathological conditions; Databases (BLAST and Trypanobase) and comparative genomics (microarray)
- Chiral drug synthesis using biocatalysts
- Target identification by receptor-ligand interaction
- Screening of NCEs



Drug Development

- Preclinical toxicological studies on small molecules as per OECD guidelines
- Bioavailability and bioequivalence studies for FDC formulations of anti-tubercular drugs, as accredited/approved by WHO
- Pre-formulation profiling, permeability studies (Caco2 cell lines) prototype formulation development and formulation optimization of conventional and novel drug delivery systems
- ADME studies
- Stress testing, stability studies and impurity profiling
- Polymer synthesis and polymeric drug delivery systems
- Nanoparticulate drug delivery systems
- Stabilization of protein formulations
- Pilot plant for process scale up of small molecules
- Standardization of herbal formulations
- Regulatory aspects of drug development

Pharmaceutical Care and Management

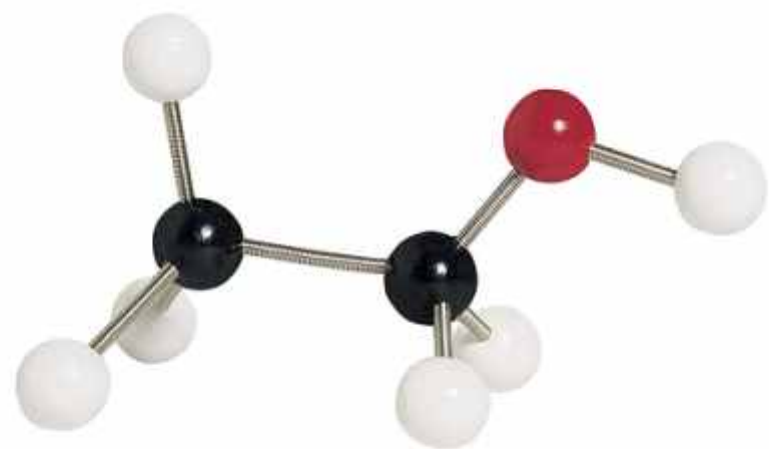
- Drug use patterns in the community
- Detection of medication errors
- Improvement of quality, talent and skills of individuals to help them lead their lives as successful pharmaceutical management professionals

Publications & Patents

Till date, the Institute has published more than 850 papers in peer-reviewed journals (<http://www.niper.ac.in>), which have been frequently cited. 87 patents have been filed, out of which 13 have been granted, 5 of these in US and PCT. The breakup is as follows:

Area	Number
Lead identification	15
Target identification	1
Drug formulation	17
Drug delivery	11
Method development	43





Training & Continuing Education Programs

NIPER-S conducts training programs for staff from government as well as private testing laboratories and drug regulatory personnel in the areas of regulatory affairs and analytical methods relevant to the pharmaceutical sector. With sponsorship from the World Bank and the Ministry of Health, Government of India, NIPER-S has held 54 such workshops till date, training about 2,600 candidates.

NIPER-S has been conceived as an Institute providing leadership in pharmaceutical sciences not only within the country but also in other countries of South East Asia, West Asia and Africa. Accordingly, the Institute conducts a three-week long course every year dealing with various facets of production and analysis of pharma and biopharmaceuticals. Approximately 220 candidates from more than 25 countries have been trained in 8 such courses held so far, which are sponsored by the Ministry of External Affairs, Government of India, under the Indian Technical and Economic Cooperation (ITEC) and Special Commonwealth African Assistance Plan (SCAAP) programs.

In addition, NIPER-S also carries out training programs for professionals, trainers, scientists, research scholars and postgraduate students, which concentrate on the areas of drug discovery and development. These are sponsored by the various funding agencies of the Government of India as well as private pharmaceutical companies.

Facilities available

Non-invasive animal imager



LC-NMR



LC-MS-TOF



LC-MS



TDC



Atomic Force Microscope



SEM



Metaplate reader



GC-MS-MS



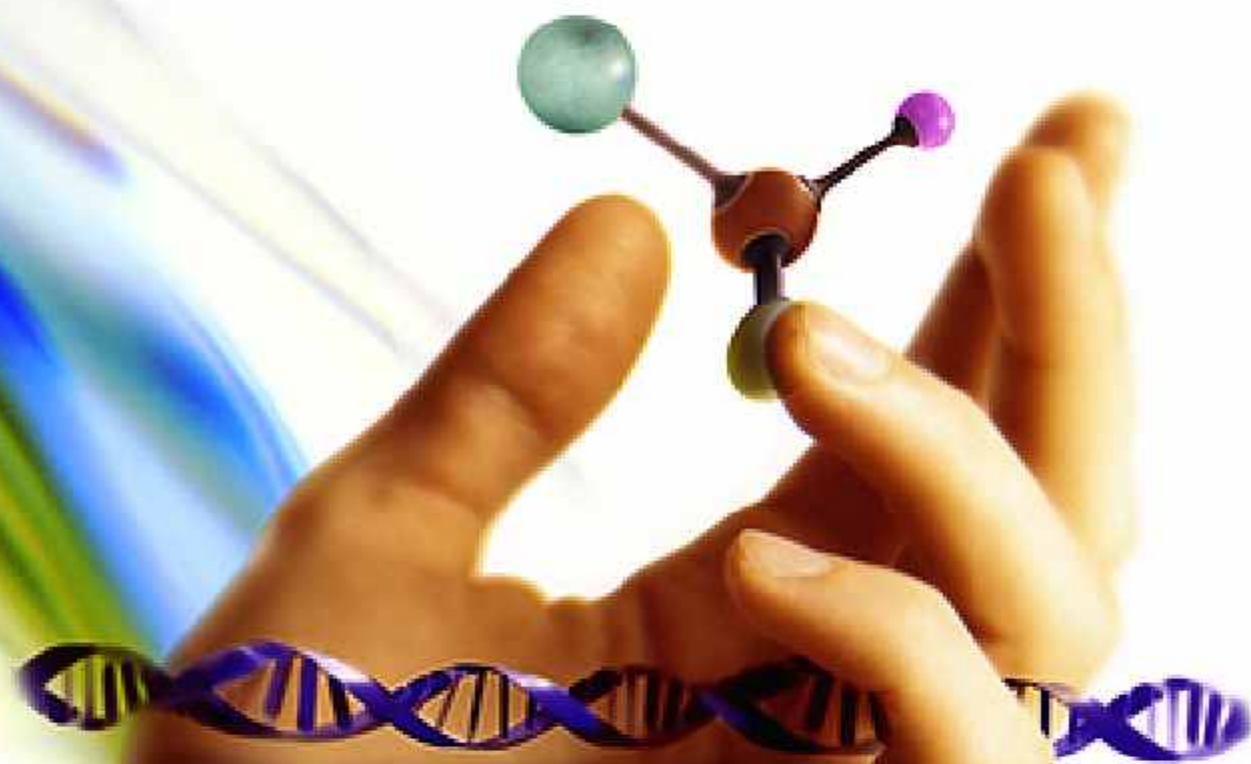
CLSM



The Institute offers fourteen different Masters' courses in the areas of medicinal chemistry, pharmacoinformatics, natural products, traditional medicine, pharmaceutical analysis, pharmacology and toxicology, regulatory toxicology, pharmaceutical technology (biotechnology), pharmaceutical technology (bulk drugs), pharmaceutical technology (formulations), pharmaceuticals, biotechnology, pharmacy practice and pharmaceutical management. In addition, NIPER-S offers doctoral and post-doctoral positions in various interdisciplinary areas related to pharmaceutical sciences.

Collaboration With Academia

NIPER-S has received funding from international organizations including International Foundation for Science (IFS) and the Third World Academy of Sciences (TWAS) as well as various international funding programs of the Government of India. The Institute also has bilateral cooperation with Australian National University (Australia), University of Saarland (Germany), Forest Research Institute (USA), University of Louisville (USA), J. David Gladstone Institute (USA), Chicago College of Pharmacy (USA), University of Hertfordshire (UK), London School of Pharmacy (UK), etc.



Collaboration With Industries

The faculty of NIPER-S interacts with the following industries on a regular basis:

- Alpha Drugs, India
- Dabur India, India
- Dr. Reddy's Laboratories, India
- DSM Anti-Infectives, India
- Ind-Swift Laboratories, India
- Indian Drugs and Pharmaceuticals Limited
- DSM Anti-Infectives, Netherlands
- Montajat Veterinary Pharmaceuticals, Saudi Arabia
- Nicholas Piramal, India
- Panacea Biotech, India
- Parabolic Drugs Ltd., India
- Promed Exports Private Ltd., India
- Ranbaxy Research Labs, India
- Torrent Pharmaceuticals Ltd., India
- Venus Remedies Ltd., India
- Zydus Cadilla, India

The Institute has also interacted with the following industries:

- Alliance Formulation, India
- Associated Biotech, India
- Aurobindo Pharma, India
- Bharat Immunity Ltd., India
- Biocon Ltd., India
- Cadila Healthcare, India
- Ecstasy Mediscience Ltd., India
- Famy Care Limited, India
- Fleming Laboratories Ltd., India
- Hindustan Antibiotics Ltd., India
- Indco Hitech Agro Rural Dev. Women Welfare Society, India
- Medochemie Ltd., Cyprus
- Jubilant Organosys, India
- Lupin Labs, India
- Macleods Pharma Ltd., India
- Natco Pharma, India
- Reckitt Benckiser Ltd., India
- Sandoz Private Ltd., India
- Strides Arcolab, India
- Unimark Remedies, India
- Vedic Lifesciences, India
- Vetnex Private Ltd., India (previously Ranbaxy Fine Chemicals Ltd.)



In addition, Bristol-Myer-Squibbs (BMS) has funded PhD and Masters' students. Astra-Zeneca Research Foundation India has instituted the Astra Zeneca endowment fund at NIPER-S.