NIRMA UNIVERSITY
INSTITUTE OF PHARMACY

NIPiCON - 2013

Nirma Institute of Pharmacy International Conference

January 18-20, 2013

Emerging Frontiers: Genesis of Drug & its Journey to Patients

Souvenir

Partners:

Organized by:

Institute of Pharmacy
Nirma University
S.G. Highway, Chharodi
Ahmedabad 382481
Gujarat, India

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NIPiCON - 2013

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Emerging Frontiers: Genesis of Drug & its Journey to Patients

Souvenir

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY

Organized by:
Institute of Pharmacy, Nirma University
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Dr. Shrimati Kamla
Governor of Gujarat

Raj Bhavan
Gandhinagar - 382 020.

Message

I am glad to learn that the Nirma Institute of Pharmacy is organizing an International Conference –NIPICON-2013 from 18 to 20, January, 2013.

It is heartening to know that the International Conference -NIPICON-2013 is being organized with the objectives to strengthen the current international and national scenario of drug research and development by offering a common platform to pharmaceutical scientists and researchers. I hope that this Conference would facilitate the global exploration on the recent advances in emerging healthcare vertical of pharmaceutical, biotechnology, clinical practice, consumer health care, medical devices, research and development.

I wish the Conference all success.

9.1.13

(Dr. Shrimati Kamla)

Date: 05-01-2013

MESSAGE

Quality of life depends upon various factors influencing a Human body-may it be internal or external. Sickness is the condition evolving from imbalance in normal life. It is this imbalance, which calls for intake of drug. The numerous advances combined with technology helps human to recover fast for better state of health.

The Pharmaceutical industry has undergone far-reaching changes during the last decade. Emerging areas in the pharmaceutical research can lead to the development of novel molecules and drug temples for different diseased. The Pharmaceutical industries of India can make great strides with a multidisciplinary team consisting of the regularity authorities and scientists from various concerned fields. Gujarat is one of the country's most enterprising states in the pharmaceutical sector and the health care sector if one of the key components of Gujarat's rapidly growing economy.

The complexicity of Pharma related sectors may converge to bring about solutions to deliver more safer, more cheaper and easily available drugs and related ancillaries for the better health of society. It is my privilege to welcome all the participants to the vibrant and conductive land of Gujarat for **NIRMA INSTITUTE OF PHARMACY INTERNATIONAL CONFERENCE, NIPiCON-2013**. I am pleased to learn that Institute of Pharmacy, Nirma University is organizing this conference with theme **"Emerging Frontiers: Genesis Of Drug & Its Journey To Patients"** from January 18-20, 2013.

I welcome all the delegates to the land of Gujarat the Pharma – HUB and invite all to interact for fruitful outcomes of the brainstorming deliberation.

I convey my best wishes for the grand success of this international event.

(Narendra Modi)

To,
Shree Prof. Anuradha K. Gajjar, *Organizing Secretary,*
NIPiCON-2013,
Institute of Pharmacy, Nirma University,
Sarkhej-Gandhinagar Highway,
Ahmedabad-382481.

Narendra Modi
Chief Minister, Gujarat State

सत्यमेव जयते
डॉ विश्व मोहन कटोच
सचिव, भारत सरकार
(स्वास्थ्य अनुसंधान विभाग)
स्वास्थ्य एवं परिवार कल्याण मंत्रालय एवं
महानिदेशक, आई सी एम आर
Dr. Vishwa Mohan Katoch
MD, FRACP, FAMS, FASc, FNA
Secretary to the Government of India
(Department of Health Research)
Ministry of Health & Family Welfare &
Director-General, ICMR

भारतीय आयुर्विज्ञान अनुसंधान परिषद
(स्वास्थ्य अनुसंधान विभाग)
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
वी. रामलिंगस्वामी भवन, अंसारी नगर
नई दिल्ली - 110 029 (भारत)

Indian Council of Medical Research
(Department of Health Research)
Ministry of Health & Family Welfare
V. Ramalingaswami Bhawan, Ansari Nagar
New Delhi - 110 029 (INDIA)

Message

I am delighted to know that Institute of Pharmacy, Nirma University Ahmedabad is organizing NIRMA INSTITUTE OF PHARMACY INTERNATIONAL CONFERENCE NIPiCON-2013 with the theme ***"Emerging Frontiers: Genesis of Drug & its journey to Patients"*** from January 18-20, 2013.

The theme of this conference is very appropriate as it also addresses patients to whom the benefits of research and innovations in pharmaceuticals sciences should ultimately reach.

I am happy to know that a large number of eminent scientists and technologists from all over the world will be participating in the conference and discuss their valuable research innovations and experiences in various disciplines of pharmaceutical sciences as well as medical devices, neutraceuticals, drug discovery and development. This will also lead to opportunities for fruitful collaboration for advancement in these areas.

It is praiseworthy to know that this conference will also give opportunity to young researchers to make presentations about their innovative ideas and learn from experiences of senior scientists. This will result in creation of much needed specialized manpower in the areas of drug discovery and development.

I am sure deliberations during conference will result in recommendations for implementations by all those concerned with indigenous drug discovery and development efforts in the country.

I wish whole programme a great success.

(V.M. Katoch)

Tele. : (Off.) +91-11-26588204, 26589620; Fax (Off.) : +91-11-26588662, E-mail : secydhr@icmr.org.in; dg@icmr.org.in

सी.एस.आई.आर.-केन्द्रीय औषधि अनुसंधान संस्थान, लखनऊ
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
सेक्टर 10, जानकीपुरम विस्तार, सीतापुर रोड, लखनऊ – 226021 (भारत)
CSIR - Central Drug Research Institute
(Council of Scientific & Industrial Research)
Sector 10, Janakipuram Extension, Sitapur Road, Lucknow - 226 021 (India)

डा॰ तुषार कान्ति चक्रवर्ती
निदेशक
Dr. Tushar Kanti Chakraborty,
FNA, FASc, FNASc
Director

Message

It's pleasing to note that the Institute of Pharmacy, Nirma University is organizing Nirma Institute of Pharmacy International Conference NIPiCON-2013 with a theme of "***Emerging Frontiers: Genesis of Drug & Its Journey to Patients***" from January 18-20, 2013. The conference, with an objective of strengthening current international and national scenario of drug discovery and development by offering a common platform to pharmaceutical scientists and researchers, was indeed the need of the hour. I wish the above conference to successfully accomplish its objective.

We are going through a period of very stringent regulatory guidelines for drug discovery & development, which are undoubtedly essential to ensure the consumer health, but have severe effects on cost and time of new drug discovery and development. There is a need for paradigm shift in the approaches to new drug discovery and its development. In this direction, Open Source Drug Discovery (OSDD), a unique program launched by CSIR, India is proving to be a very successful model for new drug discovery & development. Chemistry Outreach Program, initiated by CSIR-CDRI under the OSDD umbrella, is intended to help students to undergo useful training in drug discovery and medicinal chemistry. I take this opportunity to invite all the delegates of the conference to join the OSDDChem and be a part of CSIR led team India consortium with global partnership aiming for Affordable Healthcare for all.

I wish a grand success for the conference.

T. K. Chakraborty

(T.K. Chakraborty)

07 January 2013

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BHUPENDRASINH CHUDASAMA

No. Edu(P&S). H&I. Law & Justice, F&CS, Pan/ /2013
Minister,
Education (Primary, Secondary and Adult), Higher and Technical Education, Law and Justice, Food, Civil Supplies and Consumer affairs, Panchayats, Rural Housing, Rural Development
Government of Gujarat,
Block No. 1,7th Floor, Sardar Patel Bhavan,
New Sachivalaya, Gandhinagar-382010.
Date : - 9 JAN 2013

Message

I am very glad to learn that Institute of Pharmacy, Nirma University is organizing **NIRMA INSTITUTE OF PHARMACY INTERNATIONAL CONFERENCE NIPiCON-2013 with the theme of "Emerging Frontiers: Genesis Of Drug & Its Journey To Patients" from January 18-20, 2013.**

In this modern era, the concern for the health of people in general is increasing at a tremendous rate. Newer diseases are coming to surface everyday with no cure for them to add to the already existing ones. The research horizons are broadening and we can no longer restrict ourselves to traditional way of working instead we require a co-ordinated approach from various facets of healthcare sector including pharmaceutical industries, academicians and scientists of multidisciplinary field of science. The theme of the conference addresses the burning issues faced by the pharmaceutical as well as health sector in general in India and across the globe. In this context this conference shall provide the much needed insight in the discovery of the safe and effective drugs.

I appreciate Institute of Pharmacy from bottom of my heart for organizing such event that addresses multifaceted aspects of drug development and regulation.

I wish this event is a huge success and Institute of Pharmacy continue to achieve greater scales than ever.

(Bhupendrasinh Chudasama)

To,
Prof. Anuradha. K. Gajjar
Organizing Secretary,
NIPiCON-2013
Nirma Institute of Pharmacy International Conference
Institute of Pharmacy, Nirma University, Sarkhej,
Gandhinagar Highway, Ahmedabad, 382481

Message from President, Nirma University

It is my pleasure to welcome all the invited speakers and delegates to Institute of Pharmacy, Nirma University for NIPiCON-2013, NIRMA INSTITUTE OF PHARMACY INTERNATIONAL CONFERENCE with the theme of "Emerging Frontiers: Genesis Of Drug & Its Journey To Patients" from January 18-20, 2013.

The theme of the conference addresses the challenging issues faced by the pharmaceutical as well as health sector in India and across the globe. The horizons are broadening and a co-ordinated approach is required from various facets of healthcare sector including pharmaceutical industries, research centres, hospitals, chemists, retailers and wholesalers of medicine for effective drug monitoring issues. I hope this conference will help in combating the bottlenecks and expanding the knowledge of researchers, scientists and healthcare professionals and lead to the betterment of the healthcare sector.

I extend my best wishes for a grand success of this conference.

Dr. K. K. Patel
President,
Nirma University.

Message from Vice-President, Nirma University

It gives me immense pleasure that Institute of Pharmacy, Nirma University is organizing NIRMA INSTITUTE OF PHARMACY INTERNATIONAL CONFERENCE NIPiCON-2013 with the theme of "Emerging Frontiers: Genesis Of Drug & Its Journey To Patients" from January 18-20, 2013.

As population grows and ages, new areas of medicine need emerge. The diseases in the developing countries are growing increasingly similar to those of the developed world. Time has an alarming demand of many new drugs and medical discoveries for many health related issues. Identification of Lead Candidates and their pharmaceutical characterization as approved drug is a prolonged journey involving multifaceted aspects for the drug development and regulations. There is need to develop world class support and infrastructure both for production and research in the Indian Pharmaceutical Industry to become globally competitive. There is an urgent need of global exploration on the recent advances in emerging healthcare verticals of pharmaceuticals, biotechnology, clinical practice, consumer healthcare, medical devices, nutraceuticals and drug discovery. In that context, this type of conference will certainly facilitate good understanding of drug discovery and developmental process under changed perspectives and regulations for the scientist and researchers of common interest.

I extend my compliments to Institute of Pharmacy for organizing such event that addresses international emerging aspects of drug development and convey my best wishes for the grand success of this international conference.

Shri Ambubhai Patel
I/c Director General &
Vice President,
Nirma University.

Convener's Message

Right from the ancient times in India, in Greece and in several other countries of the world, conferences and discussions have been in the centre stage of academics. The take-home values of conferences are boundless. The primary aim is their capacity to make individuals ask questions. They are thought-provoking, research stimulating and enlightening. NIPICON's organization underlines these objectives. Intellectuals from India and abroad will be conglomerating in this event bringing their expertise and inventiveness before participants.

The celebrated scientist Stephen Hawking states that “If we do discover a complete theory, it should be in time understandable in broad principle by everyone. Then we shall all, philosophers, scientists, and just ordinary people be able to take part in the discussion of why we and the universe exist”. Scientific theories and innovations can be understood and improved upon if they are brought before an audience and discussed in academic platforms. Questioning and answering are consequential dimensions of research and this conference adheres to these aspects.

It is this idea that has lead to the genesis of NIPICON—to facilitate everybody interested to grapple with the challenges of Pharmacy and related sciences. It will be apparent in the conference through knowledge exchange and through comparison of our work with somebody else's that there are inadequacies and gaps in our perceptions. It is the objective of this conglomeration to fill those gaps or atleast make a sincere attempt to throw light on doubts and questions.

Research is a daunting task and certainly not everybody's cup of tea. For ambitious newcomers yearning to carve a niche in their chosen domain, this conference will certainly germinate ideas. The ability to advance research skills can be honed to perfection not only through study and lab work but also via exposure to specialists in the area. I also wish to emphasize here that the aim of this conference is not merely to question and agree but also to voice disagreements and doubts for only then it is possible to enhance the quality of research work. I have always subscribed to what Albert Einstein once said that “To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science”. What we genuinely need at the moment is not a perfunctory study of science but an in-depth analysis of theories and practices so that we can truly move ahead in the Pharmaceutical sciences.

I am highly indebted to the ever-encouraging Nirma University management, my hardworking faculty and my students for their co-operation in creating this opportunity. I hope this event will motivate and profit everybody.

Dr. Manjunath Ghate
Director, Institute of Pharmacy

From the Desk of Organizing Secretary

It is a matter of great honour when on behalf of the entire organizing committee, and on my personal behalf, I welcome all the delegates, invited speakers, the advisory committee members and students to NIPiCON – 2013.

Drug Discovery process has undergone far reaching changes due to the changed perspectives and the tightening of the regulatory guidelines. What once happened to be a chance discovery can now be designed to suit the needs of a particular segment of patients suffering from a disease or disorder. The approach in drug discovery has undergone dramatic changes with a fundamental understanding of the etiology of a disease. Drug discovery process, being a multi-disciplinary effort, has witnessed astronomical advancements due to the development of new, better technologies. The theme of the conference, Emerging Frontiers: Genesis of a Drug and Its Journey to the Patients, attempts to bring to the fore the latest advancements in this long, and expensive journey with a comprehensive approach.

Several prominent researchers and scientists have gathered here to share with us their findings. I genuinely appreciate the efforts of all the eminent speakers who have consented to share their experiences, expertise and scientific knowledge with the delegates and contribute to the excellence of this event. This conference will generate new ideas and inspire innovative research in future. I express my heartfelt gratitude to the Management of Nirma University for providing me with the opportunity to organize this event on the campus of Nirma University and for all the support and encouragement and erudite suggestions, which have come a long way in the final design of this event, the first of its kind at Institute of Pharmacy, Nirma University.

Organization of NIPiCON – 2013 would not have been possible without the untiring efforts of my colleagues and the students. I express my heartfelt gratitude to them all. I am also thankful to the funding agencies Gujarat Council on Science and Technology (GUJCOST) and Indian Council of Medical Research (ICMR) and advertisers for their generous support.

Lastly, I, at my own and on behalf of the Local Organizing Committee of NIPiCON – 2013, wish all the participants a very pleasant and fruitful, knowledge gaining experience in this modern temple of learning.

Anuradha K. Gajjar

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ABOUT NIRMA UNIVERSITY

Padma Shri Dr. Karsanbhai K. Patel, the founder of Nirma Group of Industries and internationally famous entrepreneur crystallized his long cherished dream of providing world-class facilities for professional education in Gujarat in 1994. He established Nirma Education and Research Foundation (NERF), which in turn, established, in a 125 acre campus, six leading institutions within a short span: Institute of Technology in 1995, Institute of Management in 1996, Institute of Diploma studies in 1997, Institute of Pharmacy in 2003, Institute of Science in 2004 and Institute of Law in 2007. The establishment of the Nirma University in April 2003 was a natural consequence of the very high standards achieved by the institutes.

Nirma University was established at the initiative of NERF in 2003 as a statutory university under the Gujarat State Act and is recognized by University Grants Commission (UGC) under section 2(f) of the UGC Act.

Padma Shri Dr. Karsanbhai K. Patel, Chairman, Nirma Group of Companies and Chairman NERF, is the President of the University. Shri Ambubhai M. Patel is the Vice-President and in charge Director General of the University.

Nirma University consists of Faculty of Technology and Engineering, Faculty of Management, Faculty of Pharmacy, Faculty of Doctoral Studies & Research, Faculty of Science and Faculty of Law. The diploma, graduate, postgraduate and doctoral level programmes offered by these faculties are rated high by industries, business magazines and by the students.

Innovation, excellence and quality are the dynamic attributes on the campus and that has translated the vision of these institutions into a reality over a short period of time. The campus vibrates currently with not only outstanding curricular activities but also with innumerable co-curricular and extra-curricular activities like symposia, international conferences, student competitions, short term industry relevant programmes, sports and cultural activities.

ABOUT INSTITUTE OF PHARMACY

Our Vision

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations.

Our Mission

Institute of Pharmacy emphasizes on all round development of its students. It aims at not only producing good professionals, but also good and worthy citizens of a great country aiding in its overall progress and development.

To treat every student as an individual, to recognize their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.

Our Objectives

Institute of Pharmacy was established with an insight to promote excellence in pharmaceutical education and to groom young scientists to meet the diversified challenges in the area of pharmaceutical industries, education, research and development and marketing with supreme professional standards.

Institute of Pharmacy is a model centre of excellence in pharmacy, conducting various graduate, post graduate, doctoral and research programs in pharmaceutical sciences. The institute is poised to face global challenges of the pharmaceutical industry and education with the changed perspectives.

Our goal is to impart continuing education programmes and to develop a national centre catering to the needs of pharmaceutical industries for raising the level of pharmaceutical education and research by training future teachers, research scientists and managers for the industry and academia. The major objectives of the Institute are to promote national/international collaborative research in the thrust areas of medicine and human healthcare with excellent industry academy interactions to meet the global challenges and to advance the curriculum and research by undertaking various research projects from governmental bodies and research centres to meet the set national objectives in pharmaceutical education and technology.

Programmes offered by the Institute include:

1. B. Pharm. (Eight semester programme)*

2. M. Pharm. (Four semester programme)* with specialization in:

    - Pharmaceutical Technology & Bio-pharmaceutics
    - Pharmaceutical Analysis
    - Pharmacology
    - Medicinal Chemistry
    - Phytopharmaceuticals and Natural Products
    - Drug Discovery
    - Clinical Pharmacy

3. Ph. D. in Pharmaceutical Sciences (Full time & External)***

**With Industrial Training, ***With course work*

The Campus

The Institute is situated on the Nirma University campus and has facilities like canteen, bank and ATM, student store, play ground, accommodation, transport facility, indoor games and gymnasium which provide an ambience that is conducive for intellectual pursuits with all essential facilities for a comfortable residential life.

The Institute building has modern amenities, with enough space, replenished with modernity and grandeur. The postgraduate laboratories are independently developed for M.Pharm. and Ph. D. students.

Major facilities available at the Institute

Class rooms- The classrooms are spacious, ventilated and equipped with multimedia and audiovisual equipment to facilitate effective learning. The classrooms are designed to provide maximum interaction between the faculty and students.

Learning Resources Centre (Library)- The Library plays a vital role in the collection, development and dissemination of scientific information and includes a wide range of volumes of different branches of Pharmaceutical Sciences and allied subjects and also provides extensive access to leading Indian and international research journals. The Library houses 7,835 volumes of books selectively chosen for reading and reference, 321 CDs, 1159 Bound Volumes, 390 Project Reports (B.Pharm), 211 Research Project Reports (M.Pharm) and 20 PhD Thesis. It also subscribes to about 37 printed national and 21 international periodicals, 19 magazines and 11 newspapers. It provides Web access to 154 e- journals: American Chemical Society (38), e-Journals from Bentham Science Publisher (23), Science Direct (93), and Back volumes access of other e-journal from PDA, offering a rich electronic environment for better bibliographic databases and reference works.

Computer Centre- The central computer facilities consist of 20 servers and more than 1100 systems, which are interconnected by fibre optic cables and 4 Mbps, leased line internet connectivity. Computing facilities for students include a laboratory equipped with 24 computers for U.G. and 10 for P.G. to the Windows NT server and Local Area Network. The network also connects the faculty and staff for information sharing and communication.

Sophisticated Instrument Laboratory- The Institute houses modern analytical instruments like FTIR, Florescence Spectrophotometer, UV- Spectrophotometer, HPLC, Supercritical Fluid Chromatography and Extraction, HPTLC, RAMAN Spectrophotometer which provide analysis comprising of elemental composition, particle/material characteristics and chromagraphic analysis. The laboratory provides analytical support and intellectual input to both in-house and externally funded R & D projects.

Machine Room – A centralized machine room is equipped with Rotary tablet machine, Fluidized bed drier cum coater, Digital tensiometer, Texture analyzer, Mini Spray Dryer, Freeze dryer, Automated dissolution apparatus etc. The laboratory provides facilities to carryout extensive research and consultancy for Pharmaceutical Industries.

Medicinal Plant Garden – A medicinal plant garden covering a total area of 3384.5 sq. meters has been developed at the university campus. More than 160 species of various medicinal plants have been already planted and maintained.

Animal house – A state of the art animal house facility, registered by CPCSEA, Government of India is designed to facilitate the availability of healthy and homogeneous animals for undergraduate and post graduate students.

Research laboratory- A fully dedicated research laboratory helps the faculty members to undertake sponsored research projects as well as to carry out doctoral research work in various areas.

Achievements

A team of highly qualified and dedicated faculty is continuously skilled in latest methods of educational technology and their fields of specialization. Faculty members are actively involved in research, consultancy and sponsored projects. Total 13 recognized Ph. D guides with more than 85 research scholars are actively working in the diversified thrust areas of pharmaceutical sciences. Apart from presenting and publishing their work in reputed journals and conferences, faculty members and students have won laurels for the institute by publication of books, patenting their research work and by receiving many prestigious awards. The Institute has received research projects worth more than around 100 lakhs Rupees from GMDC (Ahmedabad), GUJCOST (Gandhinagar) and various Pharmaceutical Industries. Four full time PhD research scholars have received the prestigious DST INSPIRE (Innovation in Science Pursuit for Inspired Research) fellowship from the DST, Government of India. Many M. Pharm students and research guides from the department of Medicinal Chemistry, Pharmaceutical Technology & Bio-pharmaceutics and Pharmaceutical Analysis have received national recognization for "R. V. Patel Competition for Best Thesis at Masters Programme" supported by Department of Science and Technology, Government of India and Troikaa Pharmaceuticals Ltd. Faculties have been awarded with P.D. Shethi Award for publishing the best research papers and for their contribution in innovative pharmaceutical research by solving web based challenges floated by the Innocentive. Inc. USA. Various faculties have also been awarded with N. S. Dhalla Young Scientist Award for Basic Sciences and awards from Association of Pharmaceutical Teachers of India for their presentations during symposiums and conferences.

The graduate students have secured admissions at reputed institutes like IITs, NIPER and other PG centres of India and also abroad. The post graduate students have been placed at reputed academic institutions and industries of India.

Different departments have received support from government organizations like ICMR, DST, AICTE, ISTE, GUJCOST in organizing various workshops, conferences and symposia of national and international level on recent advances in pharmaceutical sciences.

Research collaboration with research institutes/University

- Plovdiv University, Bulgaria
- B. V. Patel PERD centre, Ahmedabad
- Cadila Pharmaceuticals Clinical Research and Pharmacology Centre, Dholka
- Intas Pharmaceuticals Ltd., Ahmedabad
- Piramal Pharmaceutical Development Services Ltd., Ahmedabad
- Green Chem Ltd., Bangalore
- Ayurlab Herbals, Vadodara

ADVISORY COMMITTEE

Dr. H. G. Koshia
Commissioner, FDCA - Gujarat, Ahmedabad

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Dr. A. S. Patel
I/c Executive Registrar, Nirma University

ORGANIZING COMMITTEE

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Vice President & I/c Director General, Nirma University

CONVENER

Prof. Manjunath Ghate

Director, Institute of Pharmacy

ORGANIZING SECRETARY

Prof. Anuradha K. Gajjar

Academic Coordinator, Institute of Pharmacy

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STUDENTS TASK FORCE

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Madhuri Puvvada
Suchi Raghunathan
Shah Bonny Gaurav
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Dharmadarshi Atisha Anil

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Harika Duvva
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Gandhi Upasana Rajeshkumar
Prajapati Mitul Mahendrabhai
Ingrodiya Iraben Prahladbhai
Thakor Twara Bharat
Shah Priyank Krupeshbhai
Transport Committee

Mehta Chirag Chimanlal
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Sitwala Nikum Drigeshbhai
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SCIENTIFIC SCHEDULE AT A GLANCE

(Venue for Scientific Sessions: Auditorium, Institute of Management)

DAY 1 : JANUARY 18, 2013	
14.00 –16.00	Registration
16.00 –18.30	Inauguration and Key Note Address
18.30 –19.00	Refreshments & Interactions
19.00 –19.45	Entertainment Program
19.45 onwards	**Gala Dinner** ***Venue: Lawns, Institute of Management***
DAY 2 : JANUARY 19, 2013	
8.45-9.30	**Breakfast** ***Venue: Lawns, Institute of Management***
9.30-10.00	**NANOTECHNOLOGY: EXPLORING ITS POTENTIAL IN COMBATING LIFE THREATEING DISEASES** ***Prof. Nayanabhirama Udupa*** Principal & Head of Dept. of Pharmacy Management, Manipal College of Pharmaceutical Sciences, Manipal
10.00 –10.30	**CCMP PRINCIPLES TO MANAGE PHARMACEUTICAL PROJECTS** ***Dr. Navin Vaya*** Associate Director, Dr.Reddy's Labs, Hyderabad
10.30-11.00	**PHARMACEUTICAL PATENTS: A BOON OR A BANE** ***Dr. Lalitha Narayanan*** Gujarat Institute of Development Research, Ahmedabad Plenary Lecture by Dr. Padmin Buch
11.00-11.15	**Tea Break & Interaction**
11.15- 12.00	**INTEGRATED SUB-STRUCTURAL AND COMPUTATIONAL APPROACHES IN DRUG DISCOVERY RESEARCH** ***Dr. A.K. Saxena*** Chief Scientist and Former Head, Medicinal & Process Chem. Division, CDRI, Lucknow
12.00 –12.45	**FROM BENCH TO BEDSIDE: DRUG DEVELOPMENT AND INDIAN SCENARIO** ***Dr. Y. K. Gupta*** Professor and Head Of Department, Pharmacology, AIIMS, India
12.45-13.45	**Lunch** *Venue: Food Plaza, Institute of Management*

13.45-14.30	**CLINICAL TRIALS WITH SPECIAL FOCUS ON CANCER** ***Dr. J. K. Lalla*** Owner, JKLalla Associates, Mumbai, India	
14.30 –15.15	**DRUG METABOLISM RESEARCH IN DRUG DISCOVERY AND DEVELOPMENT: CONTRIBUTION OF MODERN TOOLS** **Prof. Saranjeet Singh** Professor & Head, Pharmaceutical Analysis, National Institute of Pharmaceutical Education & Research, Mohali	
15.15 - 15.45	**Tea Break & Interaction**	
	Session Lectures ***Venue : Auditorium, Institute of Management***	***Session Lectures*** ***Venue : Seminar Hall, Institute of Pharmacy***
15.45 –16.05	**VESICULAR DELIVERY SYSTEM FOR ENHANCEMENT OF TRANSDERMAL PERMEATION OF DRUG** ***Dr. Hetal Thakkar*** Pharmacy Department, Faculty of Technology and Engineering, The M. S. University of Baroda	**DESIGN, SYNTHESIS AND PHARMACOLOGICAL EVALUATION OF NEW QUINOLONE ANALOGUES AS BIOLOGICALLY IMPORTANT SCAFFOLDS** ***Dr. Patel Navin*** Department of Chemistry, Veer Narmad South Gujarat University, Surat
16.05 –16.25	**TRANSFERRIN COUPLED LIPOSOME TO ENHANCE BRAIN DELIVERY OF DOXORUBICIN** ***Dr. Vandana Soni*** Dept. of Pharmaceutical Sciences Dr. Hari Singh Gour University, Sagar	**HYDROLYTIC DEGRADATION STUDY OF HMG COA REDUCTASE INHIBITORS** ***Dr. Renu Chauhan*** Maliba Pharmacy College, Bardoli, Surat
16.25-16.45	**NANO LIQUID CRYSTALLINE (NLC) SYSTEMS IN PHARMACEUTICAL RESEARCH** ***Dr. Prathima Srinivas*** Department of Pharmaceutics Sri Venkateshwara College of Pharmacy Hitech City Road, Hyderabad	**NEURAL MODULATION OF ALCOHOL ADDITION AND FEEDING BEHAVIOR** ***Dr. Ganaraja B.*** Department of Physiology Kasturba Medical college Centre for Basic Sciences, Mangalore
16.45 –18.15	**POSTER PRESENTATION** ***Venue: Institute of Pharmacy*** **Tracks:** Pharmaceutical Technology, Biotechnology & Drug Delivery Pharmacognosy, Phytochemistry & Herbal Technology Pharmaceutical Analysis, Quality Assurance & Regulatory Affairs	

DAY 3 : JANUARY 20, 2013	
8.45-9.30	Breakfast Venue: Lawns, Institute of Management
9.30-10.15	**OPTIMIZING PHARMACOKINETICS AND PHARMACODYNAMICS OF MOLECULES: A CASE STUDY FOR ß-BLOCKERS** ***Prof. Evans Coutinho*** Professor & Head, Department of Pharmaceutical Chemistry, Bombay College of Pharmacy, Mumbai
10.15-11.00	**PHARMACOGNOSY, PHYTOCHEMISTRY, AND HERBAL TECHNOLOGY** ***Dr. Nikolaos G. Kostopoulos*** Holistic Health Centre, Athens, Greece
11.00-11.15	**Tea Break & Interaction**
11.15 – 12.00	**ANALYTICAL CHALLENGES IN LOW-DOSE DRUG PRODUCTS AND EVALUATION OF NON-DRUG RELATED IMPURITIES** ***Dr. K. Shivramchandra*** Vice-President, Analytical Department, SPARC, Vadodara, India
12.00-12.45	**ANALYTICAL DEVELOPMENT: A GLOBAL PERSPECTIVE** ***Dr. Yogesh Swar*** *Senior Manager, CMC: Analytical Development,* *Global Technical Integration, Mumbai*
12.45 – 13.45	**Lunch** *Venue: Food Plaza, Institute of Management*
12.45-14.45	**POSTER PRESENTATION** ***Venue: Institute of Pharmacy*** **Tracks:** Pharmacology, Clinical Pharmacy & Pharmacy Practice Medicinal Chemistry & Drug Discovery
14.45-15.30	**THE AMYLOID CASCADE IN ALZHEIMER'S AND DEGENERATIVE EYE DISEASES (AMD, GLAUCOMA, CATARACT) – IMPLICATIONS FOR THERAPY** ***Dr. Cornelia Schroeder*** Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany
15.30-16.30	**Valedictory Function**
16.30 onwards	**Tea Break & Interaction**

Acknowledgements

- ACME Pharmaceuticals, Ahmedabad
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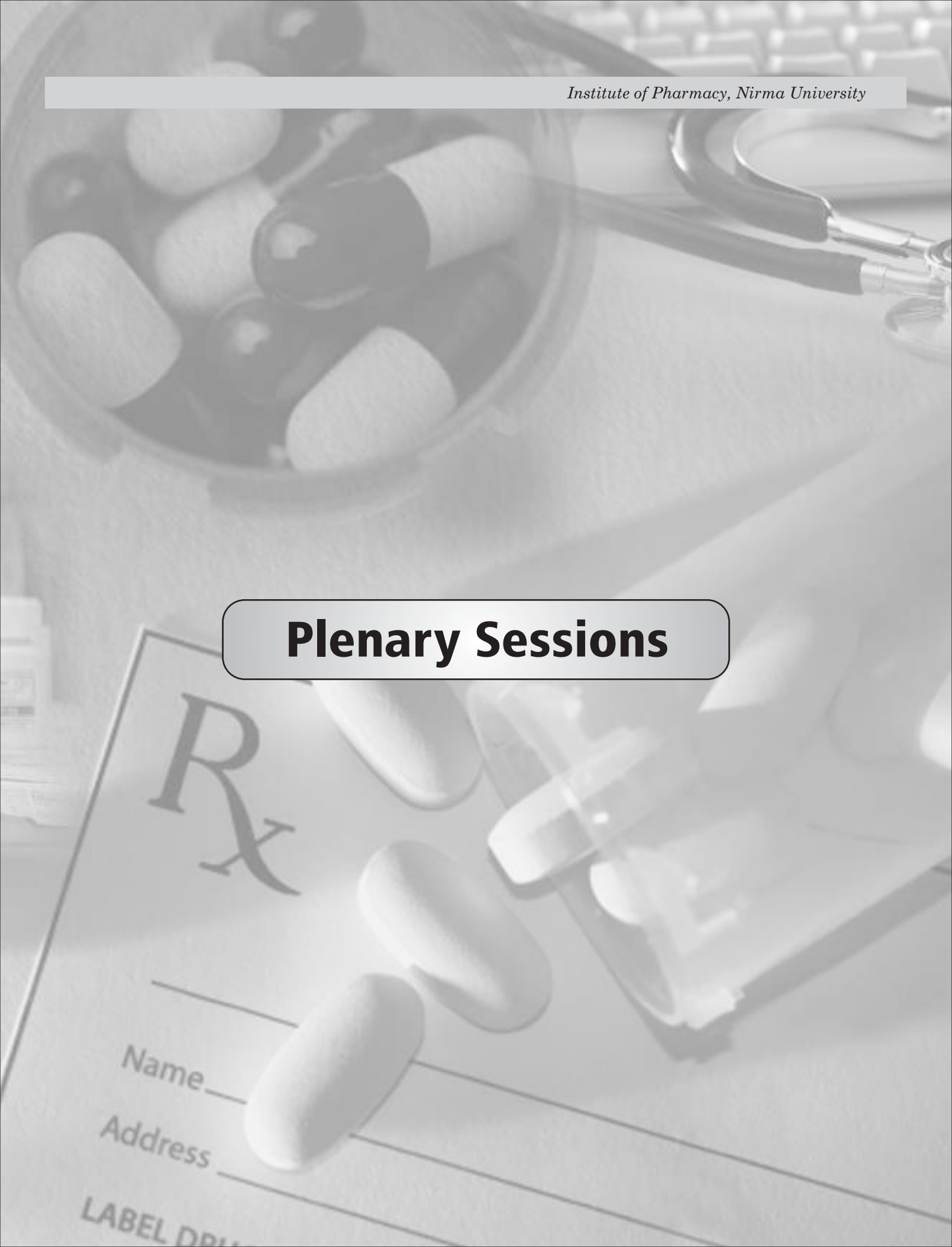
- Durga Scientific Pvt. Ltd., Ahmedabad
- Gujarat Council on Science & Technology (GUJCOST), Gandhinagar
- Gujarat Horticulture Mission, Gandhinagar
- Indian Council of Medical Research (ICMR), New Delhi
- Lincoln Pharmaceuticals Ltd., Ahmedabad
- M. P. Biomedicals India Pvt. Ltd., Mumbai
- Nirlife Pharmaceuticals, Ahmedabad
- Omni Instrument Services, Ahmedabad
- PharmaVision, Ahmedabad
- Piyush Chemicals, Ahmedabad
- Rathi Hospital, Ahmedabad
- Relish Pharmaceuticals Ltd., Gandhinagar
- Shyam Medico, Ahmedabad
- Synchron Research Services Pvt. Ltd., Ahmedabad
- Torrent Pharmaceuticals Ltd., Ahmedabad
- Troikka Pharmaceuticals Limited, Ahmedabad
- Vasu Healthcare Pvt. Ltd., Vadodara
- VRK Nutritional Solutions, Pune
- West-Coast Pharmaceutical Works Ltd., Ahmedabad



Plenary Sessions

Nanotechnology: Exploring its Potential in Combating Life-threatening Diseases

DR. N. UDUPA
Professor and Principal
Manipal College of Pharmaceutical Sciences,
Manipal-576104, Dist. Udupi, Karnataka, India

BIO-DATA

Dr. Nayanabhirama Udupa is presently serving as a Professor and Principal of Manipal College of Pharmaceutical Sciences, Manipal University, Manipal, Karnataka, India. Prof. Udupa obtained his B.Pharm, M.Pharm from Banaras Hindu University,Varanasi in top honors. After serving in pharma industry for eight years, he then returned to his alma-matter and received Ph.D. in 1987. Dr. Udupa has been guided more than 80 M.Pharm and 26 Ph.D. scholars. He has been published more than 400 research/review publications in various reputed national and international journals. He also presented more than 350 research papers in various conferences/symposia in India and abroad. Prof. Udupa has been granted with nine Indian patents. He also authored eight text books and contributed more than 20 chapters in various text books, which are widely used in pharmaceutical institutions and industries. Dr. Udupa is a widely travelled scientist. He has visited, delivered and/or presented his research work around the globe. Dr. Udupa is an editorial board member of various reputed journals like, Pharmag, Indian Journal of Hospital Pharmacy and several others. He has also contributed as a reviewer of many prestigious peer-reviewed journals including International Journal of Pharmaceutics, Drug Development and Industrial Pharmacy, Drug Delivery to name a few. Dr. Udupa has been honored with many awards; few of them are Dr. P.C. Dandiya Endowment Trust Research award in Pharmaceutical Sciences in 1997, The Principal of the Year Award-2001, IPA Fellowship Award 2009. Recently, he has also received Prof C J Shishoo Award for his research in pharmaceutical Sciences initiated by Association of Pharmaceutical Teachers of India. Dr. Udupa has successfully handled more than 50 major research projects granted from various government agencies, industries and reputed foreign universities. Many of his projects were successfully transferred into pharmaceutical industries and are marketed widely. Based on his contribution towards research in health sciences, Dr. Udupa has been appointed as a Research Director, Health Sciences, Manipal University from the year Aug 2012. Besides this he is very enthusiastic in conducting various research workshops, symposia, conferences to share the knowledge among professionals of pharmaceutical sciences. The great event held was 62nd Indian Pharmaceutical Congress at Manipal in Dec 2010 under the leadership of Dr. Udupa. Presently he is also serving as a scientific convener of Indian Pharmaceutical Congress Association from year 2010-2012. Dr. Udupa was instrumental in setting up the Bioavailability and Bioequivalence center approved by DCGI. Presently, it is named as Manipal Acunova, a leading Contract Research Organization.

ABSTRACT

For over a decade nanotechnology has become a buzz word with creating excellent opportunities for innovative drug delivery strategies for treatment of several life-threatening diseases. In this purview, there is an opportunity to work with existing drug molecules that had previously been shelved because of the complexity of their composition and structure. Research being conducted in our laboratory is mainly dedicated to this cause. We have convincingly developed different nano carrier systems which offer favorable pharmacokinetic parameters of different types of pharmacologically active agents. In this talk, I will attempt to showcase that how we engineer these nanoformulations, and I will focus on how these nano systems are translated into the treatment of various types of diseases by way of different delivery routes.

CCPM Principles to Manage Pharmaceutical Projects

DR. NAVIN VAYA
Director-Global Oncology
Dr.Reddy's Laboratories Ltd
IPDO, Bauchpally
Hyderabad, India

BIO-DATA

Dr. Navin Vaya has done his Ph.D. in Pharmaceutical Sciences from Gujarat University, Ahmedabad (2001), M.Pharm from Institute of Technology, Banaras Hindu University (BHU), Varanasi (1996) and B.Pharm from University of Rajasthan. He has achieved 48th rank in the national competitive exam- GATE, IIT, Kharagpur (1994). He has also won prestigious GP Nair award in 1994. Dr. Navin Vaya manages generics drug product development projects end to end and apply managerial/scientific/technical expertise to address complex R & D issues for the preparation and timely delivery of drug products, processes and procedures; evaluation and development of new scientific technologies; manage associates, participate in sub teams and contribute to overall formulation development strategies and goals. Dr. Vaya has rich experience of 17 years in drug development of oral solids and injectables. He has filed more than 20 patent applications and developed five major proprietary technologies. He is associated with many academic institutes and has contributed a chapter on novel drug delivery systems and review articles. He also has technical expertise in multi-particulate systems (capsules, MUPS, pulse release); osmotic technology; inlay tablets, floating systems; gastro-retentive systems; matrix MR systems; bi-layered tablets / tablet in tablets; combination of powder/pellet/tablet in capsule; taste masking; etc.

ABSTRACT

Project management plays a very important role in achieving the goals and objectives any research environment and especially in pharmaceutical research. Project management related to drug development is very complex as it involves multi-functional, multi-location coordination and managing/mitigating surprises/delays/failures. To overcome these problems and ensuring timely completion of projects, Dr. Reddy's has implemented Critical Chain Project Management Principles (CCPM) in all drug delivery research projects since 2006. Significant improvement in project delivery has been observed post CCPM implementation. CCPM is a method of planning and managing projects that puts the main emphasis on the resources required to execute project tasks. It was developed by Eliyahu M. Goldratt. This is in contrast to the more traditional methods derived from critical path and PERT algorithms, which emphasize task order and rigid scheduling. A Critical Chain project network will tend to keep the resources levelly loaded, but will require them to be flexible in their start times and to quickly switch between tasks and task chains to keep the whole project on schedule.

Pharmaceutical Patents-A Boon or a Bane

DR. LALITHA NARAYAN
Gujarat Institute of Development Research (GIDR)
Ahmedabad
Gujarat, India

BIO-DATA

N. Lalitha began her career at GIDR in 1994. Trained in Economics, her research focuses on issues around globalization, trade and development. In tracing the impact of globalization, she concentrates on issues related to intellectual property rights in pharmaceuticals and biotechnology. She focuses on both modern pharmaceuticals (including biopharma) and traditional systems of medicine (Siddha). She has contributed in many refereed books and journals on issues related to both patented and generic medicines. As part of the latter, she has studied the Tamil Nadu government model of providing essential drugs and prepared the health accounts for Government of Gujarat for the year 2005-06. Based on her research, the coffee-table book on "100 Years of Growth and Excellence of Pharmaceutical Industry" was prepared in the year 2008. Her work on agri-bio technology centers around Bt cotton adoption in Gujarat. She has also written on IPR issues in plant varieties and bio-safety regulation in the adoption of genetically modified crops. N. Lalitha is a visiting faculty at National Institute of Pharmaceutical Education and Research (NIPER) Ahmedabad, where she teaches a course on Intellectual property Rights and Technology Management. She had been a visiting scholar at Institute of Industrial Relations, University of California, Berkeley, University of British Columbia, Vancouver, Maison Del Sciences Homme, Paris and Universite Pierre Mendes France, Grenoble. She was also selected as a fellow of the Fondation Maison des Sciences de l'Homme, Paris and Columbia University, at Reid Hall to work on a project `Globalisation and Public Health in Developing Countries' which culminated in the form of a book- Intellectual Property, Pharmaceuticals and Public Health-Access to Drugs in Developing Countries co-edited with Kenneth C Shadlen, Samira Guennif, and Alenka Guzman, published by Edward Elgar in 2011. Her other book on "An Institutional Perspective on Provision of Primary Healthcare in India and Bangladesh" (co-edited) is slated for release in January 2013.

Integrated Sub-structural and Computational Approaches in Drug Discovery Research

DR. ANIL K. SAXENA
Chief Scientist and Former Head
Med. & Process Chem. Division
Central Drug Research Institute
Lucknow, India

BIO-DATA

Dr. Anil Kumar Saxena is presently serving as a Chief Scientist of Medical and Process Chemical Division, Central Drug Research Institute (CDRI), Lucknow, India. He has done his B.Sc. and M.Sc. from Meerut University and Ph.D. from CDRI, Lucknow under the guidance of Dr. Nitya Anand.

Dr. A.K.Saxena has diverse knowledge and experience of 41 years in the field of Medical Chemistry-Computer Aided Drug Design (CADD). He has been honored with many awards; few of them being Alexander von Humboldt Fellowship (Germany), INSA Young Scientist Award, Ranbaxy Research Award in Pharmaceutical Sciences, Kayastha Ratna, Kayastha Shiromani (Social Recongnisition). He has published 157 research papers, 18 review articles, presented 144 papers and has 70 granted/filed patents including both national and international sectors. He has been invited to deliver 148 lectures including both India and abroad. He has received more than 2 crore rupees from different government agencies as research grants.

ABSTRACT

The continued scientific and technological advancements including the human genomes sequencing in late nineties have led to a major shift in the field of drug research in the new millennium from classical approaches to the involvement of new sciences and technologies like genomics, proteomics, pharmacogenomics, combinatorial chemistry (Combichem), high throughput screening (HTS) and computer aided drug design (CADD). Drug discovery and development are recognized to be very time and resource consuming processes. The pharmaceutical industries are under increasing economic pressure to develop new drugs as older ones are losing their exclusive status and there is an increasing medical need to find new medicines for serious disease and also for enhancing the quality of life emphasizing the three "H' s" as Happy, Horny & Hairy. The technologies, which can speed up the drug discovery, process (lead generation & lead optimization) and thus save time, money and other resources are being aggressively sought. Rational drug design implies the identification or creation of novel candidate drug(s) using the knowledge about the information of the structure of a drug receptor or its natural ligands. The substructure approach based on anneleation or incorporation of the pharmacophores (substructure analysis) with or without the concept of medicinal chemical hybridization (MCH) has been most rewarding in generating new prototype molecules of desired biological potential (Lead generation) followed by their optimization has been very useful in the discovery and identification of candidate molecules for drug development. The computational techniques (in silico), which include both ligand-based drug design (LBDD), structure-based drug design (SBDD) are also widely used in the lead optimization step of drug discovery phase. Thus the integration of sub-structural and computational approaches has great potential in accelerating the drug discovery process through the lead identification and its optimization in terms of reduction in time and resource requirements in the chemical synthesis and biological testing. These integrated approaches have been successfully utilized in the discovery of two highly potent anti-thrombotic (S-002-333) and potential cardioprotective (93-478) drug candidates from our lab which are currently in the product pipeline of the CDRI. These powerful techniques not only helped in the design and optimization of the biological activity but also aided in understanding of their molecular recognition and the mechanism of action.

From bench to bedside: Drug development and the Indian scenario

DR. Y. K. GUPTA
Professor and Head of Department
Department of Pharmacology
All India Institute of Medical Sciences (AIIMS), India

BIO-DATA

Dr. Y.K. Gupta M.B.B.S (1974), M.D (Pharmacology, 1979) from King George's Medical College, Lucknow, is Professor and Head, Department of Pharmacology and Spokesperson, All India Institute of Medical Sciences (AIIMS), New Delhi. He earlier served as Sub Dean, A.I.I.M.S (1996 – 2001) and Director, Indian Institute of Toxicology Research (IITR, CSIR), Lucknow from 2003 to 2005. Dr.Gupta is incharge of National Poison Information Centre and is also National Scientific Cocoordinator of Pharmacovigilance Program of India (PvPI). He has been honored with fellowships of National Academy of Medical Sciences (FAMS), Indian Pharmacological Society (FIPS), National Academy of Science (FNASc), Indian Academy of Neurosciences (FIAN) and Society of Toxicology (India) (FST). He has more than 180 publications in International and National journals and several chapters in books to his credit. Dr Gupta is recipient of several awards including Young Scientist Medal from Indian National Science Academy, Shakuntala Amirchand Prize, Chandrakanta Dandiya Prize, G. Achari Oration Award, Major General S. L. Bhatia Oration Award, AEB Honors Award, C. L. Malhotra Prize etc. Dr. Gupta is currently President of Society of Toxicology, India and Dean Indian Society for Rational Pharmacotherapeutics, and was President of the Indian Pharmacological Society (2005- 2006). He is the Editor of the Indian Journal of Physiology and Pharmacology (Pharmacology Section) and member editorial board of several International and Indian journals. He is the Chairman of National Committee of IUPS-IUPHAR of Indian National Science Academy (INSA), Member of IUPHAR –IOSP committee and member of Advisory Committee on Safety of Medicinal Products (ACSoMP) of WHO, chairman of Equivalence Committee and member Ethics Committee of Medical Council of India. He has been member of Project Advisory Committee / Research Council / Scientific Advisory Committee and Task force of CSIR, ICMR, DST and DBT and Chairman, SAC of National Institute of Occupational Health (NIOH-ICMR). He is chairman of national GLP technical committee of DST, member of the Scientific Body of Indian Pharmacopoeia (IP) and Chairman of Expert Committee on Clinical Medicine and Pharmacology of IP. He was the Chairman of National Essential Medicine List Committee 2011 of Ministry of Health & Family Welfare, Government of India and also the Chairman of the working group of High Powered Inter-Ministerial Coordination Committee to look into the matters of implementation Government commitment to provide quality medicine at affordable prices.

ABSTRACT

Modern drug discovery has become an increasingly time-consuming, risky and an expensive process. It requires an average of ten years or longer to move a molecule from pre-clinical studies to marketing approval and the costs can range up to a billion dollars. Researchers involved in drug discovery and development validate new targets, screen potential drug candidates to select the right molecule to interact with the chosen target, test the new compound in the laboratories and clinics for establishing safety and efficacy and finally gain approval to get the new drug into the market. The studies performed under an IND application are classified into phases having distinct purposes and methodologies. If the findings from clinical testing of experimental medicine demonstrate that it is both safe and effective, the sponsor files a New Drug Application (NDA) seeking approval of the regulatory authority to market the drug. Once the drug has been approved it leaves the secure and protected test tube like environment of clinical trials and is legally available for consumption by the general population. Limitations of formal clinical testing include relatively small sample sizes, selective populations, short follow-up and the use of surrogate end-points. Post marketing studies involves monitoring the safety of the new drug under real life conditions. Factors that make India a viable clinical trial destination include large genetically diverse and treatment naïve patient population, large patient pool with disease patterns reflective of both the developing as well as developed world, availability of state of art facilities and competent health professionals, widespread proficiency in English and lower overall costs of clinical trial operations. However, despite these factors, only 1.5% of all global trials are being conducted in India. Globally, there has been a concern about ethical and scientific implications of globalization of clinical trials to developing countries. Issues with the conduct of trials in India include lack of sufficient GCP trained trialists, paucity of statisticians & epidemiologists and mushrooming clinical research training institutes who lack accreditation. The ethical dimension of Indian clinical trials has been the focus of recent media reports. Deaths in clinical trials, commercialization of clinical research, exploitation of study participants, informed consent deviations, compensation for trial injury, and independent ethics committees have been at the center of these concerns. Potential solutions to some of these burning issues include capacity building and human resource development with focus on competence, strengthening of ethical oversight, streamlining and reducing time frame of regulatory approvals, mandatory accreditation of IRBs and contract research organizations and development of a robust pharmacovigilance programme.

Clinical Trials with Special Focus on Cancer

DR. J. K. LALLA
Owner, J.K. Lalla Associates, Mumbai, India

BIO-DATA

Prof. J. K. Lalla did his Ph.D. in Pharmaceutics, Bachelors and Diploma in Pharmacy from University of Bombay. He has been a Professor and Principal of K.M. Kundnani College of Pharmacy, Mumbai for 32 years. His biggest contribution to Pharma sector is his students who have occupied important positions in the industry, retail professions, teaching and regulatory affairs. He has guided more than 60 M.Pharm students and 34 Ph.D. scholars. Prof. Lalla is a scientist and has 124 national and International publications to his credit. He has two patents filed, accepted and sealed by 'The Patent Office', Government of India and also has filed WTO on transdermal delivery of tobacco extract. He has presented more than 200 scientific papers in IPC from 1980 onwards and elsewhere. He has chaired several scientific seminars and sessions. Presently, he has developed Novel Drug Delivery formulations for a pharmaceutical company where he is also assisting in developing equipments for developing the same. His area of research has been designing and evaluation of Novel Drug Delivery Systems, Quality control of Herbals and Nutraceuticals and Clinical Research. Prof. Lalla has established M.Pharm Sci Course with Pharm. Analysis specialization in 1996 in KMK for the first time in India. His contribution to the Pharmacy Profession was through Vice Presidentship of Indian Chapter of Controlled Release Society and IPA, Scientific Convener of Indian Pharmaceutical Congress (1994-97). He was the first Chairman, Board of Studies, Maharashtra University of Health Sciences (MUHS), former Convener of Ad hoc Board in Pharmacy, Bombay University, former member of Academic Council and Senate of Bombay University, Pharmacy Expert and Advisor to Government of Maharashtra and Government of India (AICTE). He is also on the Governing bodies of several colleges. He was on the Editorial Board of Indian Journal of Pharmaceutical Sciences, Pharma Times, Indian Drugs and Pharma Pulse. He is a consultant to various Pharmaceutical companies of the country. He is a recipient of several awards in India (such as, the PAMDAL Award for bringing up one of the best institutions); 4 Indian Drugs Manufacturers Association (IDMA) awards for publishing Best Research Papers in Indian Drugs in the area of Industrial Pharmacy; Maharashtra State Government's 'Best Teacher Award', Prestigious Jhulelal Award , Felicitation by Maharashtra State Pharmacy Council 1997-98 Prof. G.P- Srivastava Memorial Award for the best National Teacher in Pharmacy, Drug Inspectors Welfare Association (DIWA) Award - 2000 for his outstanding contribution to Pharmacy Education and Profession. Prof. Lalla was a member of several International Professional Societies, such as American Chemical Society, New York Academy of Sciences, Controlled Release Society, Washington DC and American Association of Pharm. Scientists and others. He is a life member of Indian Pharmaceutical Association (IPA), Indian Hospital Pharmacists Association (IHP), Indian Society for Technical Education (ISTE), Indian Society of Analytical Scientists (ISAS), to name a few. In Feb-Mar 1998, Dr.Lalla was invited by American Chemical Society to attend "Pittcon" at Mississippi in New Orleans State.

ABSTRACT

Cancer is a global health problem. While there have been some major advances in the treatment of solid tumors over the past 30 years, most therapeutic successes have been relatively modest, leading to survival gains of a few percentage points at best. Thus there is an urgent need for continued clinical research involving new drugs or drug combinations. In India, there are an estimated 2.5 million cases of cancer at any given time. Nearly 800,000 cases were diagnosed in 2000 and there were 550,000 deaths due to cancer in that same year. Tobacco-related cancers account for almost one-third of all cancers in India predominantly head and neck, lung, and oesophageal cancers. Availability of Patients with 'Specific Cancer' and their consent to be "Trial Subjects" for such trial is the greatest impediment in conducting human trials. In acknowledgement of the intense resource and ethical implications of exposing patients with life threatening illnesses to experimental and potentially ineffective therapies, there exists an equally compelling need for well designed human clinical trials. This has necessitated use of in vitro methods for preliminary testing using relevant 'Cell lines / Cell cultures' before experimenting in vivo on the patients. Role of the doctor performing clinical research (i.e. as an Investigator) is a critical one. The aim of this summary is to make one aware of the fundamental background knowledge of drug development for better appreciation of the importance of one's role in producing high quality results in ethical clinical research.

Drug Metabolism Research in Drug Discovery and Development: Contribution of Modern Tools

DR. SARANJIT SINGH
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Pharmaceutical Analysis, NIPER
Punjab

BIO-DATA

Dr. Saranjit Singh is a Professor and Head of the Department of Pharmaceutical Analysis at the National Institute of Pharmaceutical Education and Research (NIPER) at S.A.S. Nagar, Punjab. He acted as Dean from July 2008-July 2011. He is a member of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations, World Health Organization, Geneva and has been a Temporary Advisor, Expert Committee on Specifications for Pharmaceutical Preparations, World Health Organization, Geneva from 2007-2011. He specializes in stability testing and impurity profiling and recently started research in metabolite profiling also. He is in education and research for the last 31 years and has delivered 328 invited lectures in India and abroad. He has spoken at the forums of AAPS, USP, IPA, IDMA, etc. He has published 170 research papers, general articles and book chapters. He is a member, Editorial Advisory Board of Journal of Pharmaceutical and Biomedical Analysis (Netherlands), Eurasian Journal of Chemistry (Turkey), and several other journals. He is reviewer to most of the Journals in the area of pharmaceutical analysis. Dr Singh is recipient of Professor M.L. Khorana Memorial Lecture Award (2005), and IDMA-APA Eminent Analyst (2008) and Outstanding Analyst (2002) Awards.

ABSTRACT

In today's practice of drug discovery and development, comprehensive investigation of drug metabolism is necessary to optimize lead compounds, and to explain mode of their efficacy, clearance, inter-individual variation and toxicity. Drug metabolism studies include determination of metabolic stability, metabolite identification, reaction phenotyping, cytochrome P450 (CYP) induction/inhibition, and reactive metabolite identification. These are currently carried out using several modern tools, like in silico prediction, in vitro models for metabolite generation, newer sample preparation methods for in-vitro and in-vivo samples, LC-MS approaches for MetID and metabolite quantitation, and trapping approaches for reactive metabolite screening. The utility of these tools will be highlighted through multiple study examples, viz., i) identification of metabolites of rifamycins (rifabutin), ii) CYP reaction phenotyping studies on rifamycins, and iii) formation of reactive metabolite adducts of new anti-malarial compounds (synthesized at NIPER) with glutathione and N-acetyl cysteine.

Optimizing Pharmacokinetics and Pharmacodynamics of Molecules: A case study for ß-blockers

DR. EVANS COUTINHO
Professor of Pharmaceutical Chemistry
Bombay College Pharmacy
University of Mumbai, Mumbai, Maharashtra, India

BIO-DATA

Dr. Evans Coutinho is working as a Professor in Pharmaceutical Chemistry, Bombay College of Pharmacy, Mumbai, India since 1986. He has 26 years of teaching experience in various subjects such as Organic Chemistry, Pharmaceutical and Medicine Chemistry and Pharmaceutical Analysis. Dr. Coutinho has been working on various thrust areas in research such as NMR of peptides, quantum mechanical calculations, Development of new methods in 3D-QSAR, homology meeting, docking, structure based drug design, pharmacophore mapping etc. He has been awarded by Cipla Distinguished Fellowship (2004), AICTE career Award for Young Teachers (1995), UGC research award (1999), Visiting Fellowship to Drew University (1998), USA and IISc Bangalore (1994 & 1997). He is a member of Program Advisory Committee of High Field Facility at TIFR. Dr. Coutinho has more than 120 publications in high impact journals like Journal of Organic Chemistry, Journal of Computational Aided Molecular Design, Journal of Molecular Graphics Model etc. He has more than 65 presentations at various National and International Conferences, Sympsia and Seminars and more than 40 invited talks in Conferences, Symposia, Seminars, etc. He has been funded by various research organizations such as DST, DBT, AICTE, UGS, CSIR and corporate Pharma bodies in India.

ABSTRACT

The end benefits of a drug are a result of the combination of its pharmacodynamics and pharmacokinetics including toxicity. To increase the success rate in drug discovery, it is necessary that very early on, a complete assessment should be made of all factors that are likely to affect this success namely factors influencing the pharmacodynamics and pharmacokinetics. To this end, *in silico* pharmacokinetic (PK) and pharmacodynamic (PD) approaches have the distinct advantage of being able to minimize the attrition rate during the drug development process by creating a scenario in which 'parallel' information can be generated using virtual structures instead of utilizing resources and time for synthesis and waiting for results of iterative evaluations.β-blockers were introduced at a time when the role of pharmacokinetics in the drug design process was little understood. As a consequence, most β-blockers introduced into therapy have far from satisfactory pharmacokinetic profiles. The goal of this study was to develop mathematical models for both the activity and pharmacokinetics (V_d) and (Cl) of β-blockers. The tool used was **HQSAR** *i.e*. **Hologram Quantitative Structure Activity relationships**. The advantage of HQSAR is that it requires only 2D structures as inputs. Holograms are generated for each molecule depending on the fragment length and fragment distinction parameters chosen. The occupancy numbers of the bins in the hologram are used as independent variables. These are then correlated to the pharmacokinetic parameters under consideration. Partial least square regression is then used to generate the models. Validation is done using standard tools. Based on the HQSAR contribution maps, structures were modified so produce new molecules with an optimal half-life ($t_{1/2}$) of 6-10 hours. The activities of new molecules were predicted using the HQSAR models build for the activity. Some observations regarding fragment contributions are the addition of cyclopropylmethoxyethyl group on the phenyl ring leads to increase in V_d. Another modulation seen is the incorporation of methyl groups on the ring which leads to enhanced clearance rates. This phenomenon may be attributed to overall decrease in polarity which in turn decreases plasma protein binding and thus increases clearance rates. The analysis of the pK_i models shows that the presence of a carboxamido, N-methylcarboxamido or benzopyrrole fragments in the structure makes a positive contribution to the activity. Such features can be used as handles to create desired product profile.

Pharmacognosy, Phytochemistry & Herbal Technology

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Holistic Health Centre, Athens, Greece

BIO-DATA

Dr. Nikolaos Kostopoulos qualified at Athens Medical University, Greece. He worked in the Renal Unit of the Naval Hospital in Athens, in the Intensive Care Unit of the Hospital of Chest Diseases in Athens and in the Respiratory Unit of the Manchester Royal Infirmary in England. He is a member of the Faculty of Homeopathy in England and of the Hellenic Homeopathic Association in Greece. He is a member of the editorial review board of the JAIM(Journal of Ayurveda and Integrative Medicine). Vaidya Asvin Barot introduced him to Ayurveda. Dr. Kostopoulos practiced in private practice in England for ten years, combining Ayurveda and modern medicine. Since 1999 he has been running the Holistic Health Centre in Athens, Greece. He is also involved in ongoing research in the field of psychosomatic disease and stress management through Ayurveda. He participates in international conferences and has given lectures in the UK, Ireland, Germany, France, Switzerland, Japan and India, promoting a modern, scientific approach to Ayurveda.

ABSTRACT

Modern medical science is based on the principles of diagnosis, prognosis and treatment.

Diagnosis is based on the pathology of a specific tissue or organ and treatment on altering the basic pathology towards a balanced and healthy state. As we are using herbs to interact with disease mechanisms it is very important to know how they are acting within the system and how they interact with other drugs used for the treatment. Phytopharmacology and phytopharmacognosy cover exactly these needs. My experience from practicing an integrated model of medicine merging Ayurveda together with modern medicine in the west will be shared in this talk.I will expand more on the questions patients and modern physicians have when they face Ayurveda and how phytopharmacology and phytochemistry can help in expanding this science in the western countries. Standardization, safety, efficiency, availability and cost are the main queries of modern scientists and I will raise the practicality of these issues as I meet them in my practice.

Analytical challenges in Low-dose drug products and Evaluation of non-drug related impurities

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BIO-DATA

Dr. K. Shivramchandra is Vice President of Analytical Development Department of Sun Pharma Advanced Research Centre (SPARC), Vadodara. He has completed his M.Sc. degree in Analytical chemistry from University of Mysore, Ph.D. from M.S. University of Baroda. He has served in Lupin Labs Ltd, for 6 yrs. M.J. Institute of Research, Vadodara for 6 yrs. Since 19 yrs, he is heading a team of research scientists in Analytical and Bioanalytical Department of SPARC, Vadodara. Dr. Shivram has vast experience of 30yrs in pharmaceutical analysis and method development. He has published 21 papers in analytical chemistry in various journals. He has delivered several lectures at various scientific programs. He is also an examiner for M.Pharm studies of M. S. University of Baroda. Dr. Shivramchandra is a member of American Chemical Society and Chairman, Indian Society of Analytical Scientists (Vadodara chapter).

ABSTRACT

Low-dose formulation analysis poses challenges to pharmaceutical analytical chemist. There will be issues like: incomplete extraction of active drug due to high excipient/drug ratio, leading to low recovery and irreproducible assay results. Assay and purity results can be impacted by interferences from excipients or excipient related impurities. There will be other issues like problems in dissolution studies, determination of degradation product during stability studies, wide variations in content uniformity due to uneven drug distribution, etc. Advances in analytical techniques such as derivatization reactions and use of special detectors like mass (MS), conductivity and fluorescence have minimized those concerns upto certain extent. Non-drug related impurities in the product also impart additional challenges to analysts. They may be originating from packaging materials, environmental contamination, containers, sample preparation steps, sometimes due to excipient interactions, impurities in the analytical solvents etc. Proper understanding of drug interaction is necessary to identify the origin of impurities in the drug product. Extra efforts needed to evaluate such impurities will be exemplified with case studies.

Analytical Development: A Global Perspective

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BIO-DATA

Dr. Yogesh Swar is presently serving as Senior Vice-President at Johnson and Johnson, Mumbai, India. He did his M.Sc. and Ph.D. in Chemistry from Mumbai University. He has several years of work experience in R&D and Analytical Development in different leading companies of India. He is specialized in different areas such as Analytical method development for Pharmaceutical products, Pharmaceutical Sciences, Solid state characteristics, Project leader within CMC organization with ability to collaborate across various functions within and across global sites. Dr. Swar has several publications in various Journals such as Asian Journal of Chemistry, Indian Journal of Chemical Sciences to name a few.

ABSTRACT

Moving through the many phases of drug development, from the identification of a candidate molecule for development to the filing and approval of a license to market a product, analytical control methods and the associated technology for both drug substance and product may undergo many changes. Analytical method development and validation play a important role in the discovery, development, and manufacture of pharmaceuticals products. In a world where globalization leads to this process and to the subsequent commercialization of product being executed on a number of different sites worldwide, the effective and efficient transfer of analytical and control technology is a critical factor in ensuring consistent quality standards which match the expectation of Regulatory authorities worldwide. In order to maximize the efficiency of analytical method development and transfer, it has been necessary to reconsider some of traditional ways of doing business. Team work and collaboration with colleagues in both R&D and manufacturing with alignment in regulatory strategy are needed to streamline the process. Demonstrating the effectiveness of the Analytical methods and technology is a matter of importance at the time of Food and Drug Administration (FDA) preapproval inspections, and this an area where further opportunities for improvement are still available. The focus of regulatory bodies worldwide is now increasing with even R&D activities coming under the purview of cGMP.

The amyloid cascade in Alzheimer's and degenerative eye diseases (AMD, Glaucoma, cataract) - implications for therapy

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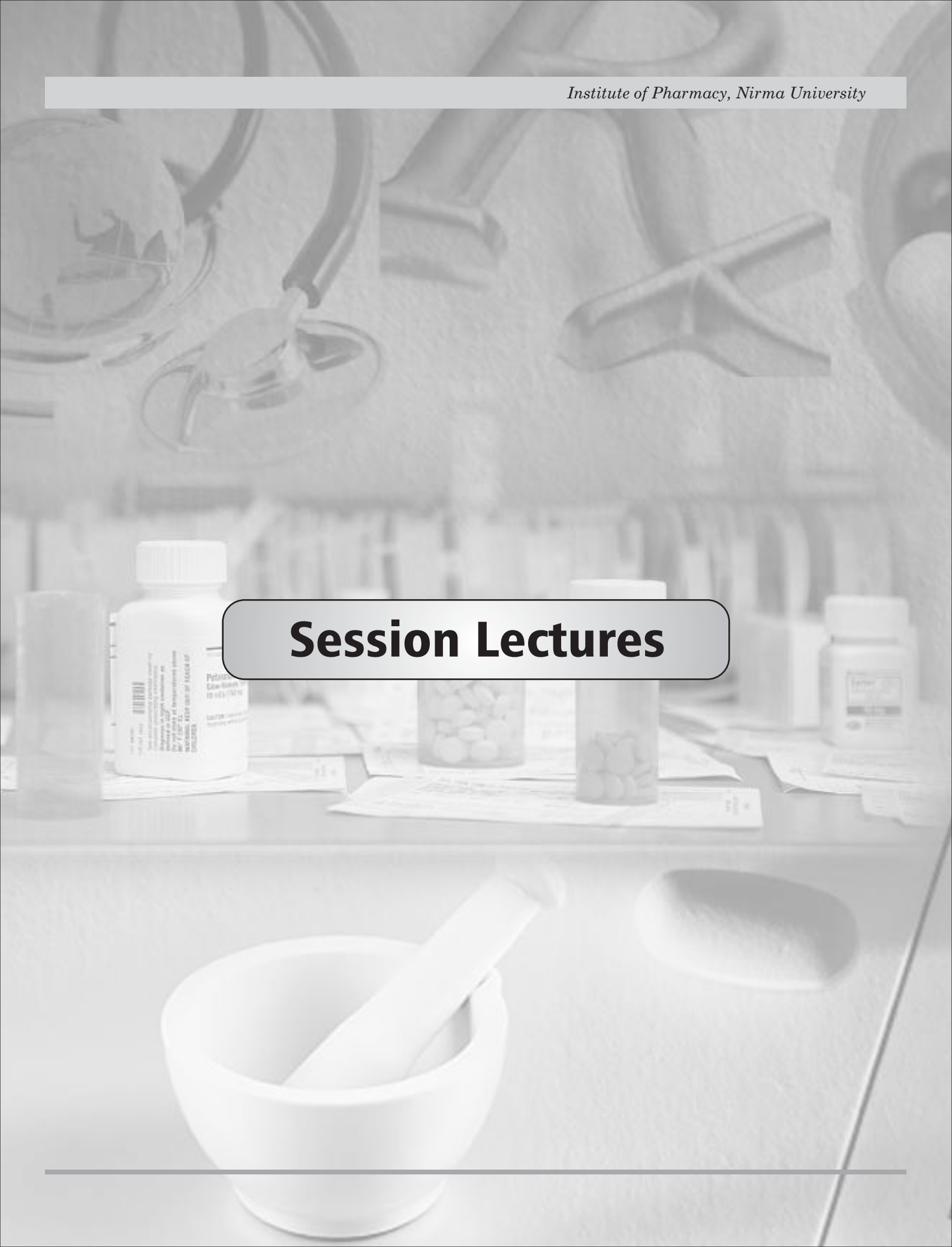
BIO-DATA

Cornelia Schreder is presently working in the field of Alzheimer's disease, influenza virology and drug development for both the indications. After several years of experience in academia she has spent eight years (2002-09) in JADO Technologies, a company dedicated to the development of membrane-raft targeting drugs. She then joined the Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, where she focuses on drug testing in an Alzheimer mouse model and virus lipidomics. Cornelia has several publications in various reputed journals.

ABSTRACT

Alzheimer's disease (AD), the most frequent senile dementia, has a growing impact worldwide. ß-amyloid build-up ultimately destroys synapses and neurons. Rate-limiting BACE-1 cleavage of APP followed by γ-secretase generates ß-amyloid. Dominant mutations in APP or presenilins result in AD earlier in life. Conversely, AD is delayed by an APP mutation interfering with ß-cleavage. Etiologic connections are emerging between AD and the most prevalent degenerative eye diseases glaucoma, age-related macular degeneration (AMD), and cataract. Here, ß-amyloid deposits in the eye, while AD is often accompanied by accelerating visual impairment. Retinal pathology was characterized in AD mouse models (Ning et al. 2008; Perez et al. 2009), amyloid plaques were detected in AD patients retinae (Koronyo-Hamaoui et al. 2011). Ocular biomarkers may allow early diagnosis of AD. Guo et al. (2007) showed Aß colocalizing with apoptotic retinal ganglion cells in experimental glaucoma. Drusen containing ß-amyloid characterize AMD (Johnson et al. 2002). ß-Amyloid also forms in the lenses of AD and Down Syndrome patients (Goldstein et al. 2003, Moncaster et al. 2010), AD-like pathology and cataract formation are augmented by the third APP gene copy. Moreover, respiratory chain inhibition elevates BACE-1 in the retina; this upregulation also links metabolic deficiency and oxidative damage (cf. Xiong et al. 2007). Are AD and ß-amyloid-associated eye diseases manifestations of the same syndrome? Inhibitors and antibodies were investigated as experimental therapies and to elucidate the amyloid cascade's role in ocular pathology. We present an overview of such therapies and experimental systems we are currently implementing.



Session Lectures

Vesicular delivery system for enhancement of Transdermal permeation of drug

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M.S. University, Vadodara, Gujarat

BIO-DATA

Dr. Hetal Thakkar is presently serving as Assistant Professor at M.S. University, Vadodara, India. She has obtained her B.Pharm, M.Pharm from L.M. College of Pharmacy, Ahmedabad and Ph.D. from M.S. University, Vadodara.

Dr. Thakkar has 4 years of academic experience in Babaria Institute of Pharmacy and 6 years in M.S. University, Vadodara. She has 2 years of industrial experience in Quality Control department at Milmet Laboratories Pvt. Ltd and 2 years in Unimed Technologies Limited. Dr. Thakkar has 21 publications in various national and international journals. She has presented 12 papers in various national and international journals. She has guided 16 M.Pharm students and presently is guiding 6 M.Pharm and 4 Ph.D scholars. She has received Career award for Young Teachers from All India Council of Technical Education (AICTE), a statutory body of Government of India, for a period of three years starting from June 2010. The total amount sanctioned is Rs. 10.5 lakhs. Dr. Thakkar has attended 15 workshops, seminars, conferences and training programmes at national and international levels. She is very enthusiastic and has contributed to several other professional activities. She has judged various competitions such as model making, poster presentations etc. held at various institutes. She has delivered several guest lectures at conferences held at various institutes. Dr. Thakkar professional membership in various Pharmaceutical Associations such as Indian Pharmaceutical Association (IPA), LMCP Alumni Association, MSU Pharmacy Alumni Association and several others.

ABSTRACT

Transdermal drug delivery has gained a lot of attention because of its non-invasive nature, possibility of increasing systemic availability by avoiding first pass metabolism and providing sustained release of drugs. However, its clinical application is still limited due to various factors, most important being the presence of the outermost barrier layer, the stratum corneum (SC), through which, the permeation of drugs is very difficult. Several physical and chemical penetration enhancement techniques have been developed till date for increasing permeation of active moiety through skin. Significant research is done on vesicular carriers such as liposomes, niosomes, Ethosomes and ultradeformable vesicles for enhancement of transdermal permeation of drugs. These carriers are able to increase the permeation because of their small nanometric size and their composition. The mechanism of the enhancement of transdermal permeation by these vesicular delivery systems, the relevant literature and some of our case studies are presented here.

Design, Synthesis and Pharmacological evaluation of new quinolone analogues as biologically important scaffolds

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BIO-DATA

Dr. Navin Patel is presently serving as a Professor in Department of Chemistry at Veer Narmad South Gujarat University, Gujarat, India. He has 30 years of teaching experience in different institutes. Dr. Navin Patel has specialization in the field of Organic Medicinal Chemistry, Synthesis heterocycles viz. Quinolones, pyrimidines, thiazolidinones, azrtidinone, triazoles etc and their biological evaluation. He has 110 national and international research publications. Dr. Navin Patel has supervised 23 Ph.d. and 16 M.Phil researchers. He is a member of several professional bodies such as Zonal Secretary (West Zone) of Indian Council of Chemists, Life member of Indian Chem Society, Indian Science Congress Association, Indian thermodynamic Society, ICC and several many. He has attended and presented in 35 national and international conferences. Dr. Navin Patel has contributed as reviewer for manuscripts of national and International Journals; IJC, JICS, EJMC, MCRJ, Chemotherapy, etc. He also has a diverse experience in various administrative bodies such as I/C NSS program coordinate, member of NSS advisory committee, Member of SC/ST cell VNSGU, convener for admission in M.Sc. Biotechnology and B.Sc. Chemistry Admission (2012-2013).

ABSTRACT

Medicinal Chemistry is most developing branch in this recent era, which deals with synthesis of pharmaceuticals. Significant pharmacological profile observed for heterocycles, possess wide application as future of pharmaceutical compounds. Research in medicinal chemistry is continuous process, due to resistance created in pathogens. Recently we have observed biological importance of heterocyclic compounds related to pyridine, pyrimidine, quinazolinones etc.; In view of this experience and the literature survey; still the modifications are going on for heterocycles. Quinolones comprise a relatively large growing and most interesting group of antibacterial drug, which have made a major impact on the field of antimicrobial chemotherapy, particularly in the past few years. This is because they potentially offer, many of the attributes of an ideal antibiotic combining high potency, a broad spectrum of activity, good bioavailability, oral and intravenous formulations, high serum levels, a large volume of distribution indicating concentration in tissues and a potentially low incidence of side effects. DNA gyrase, topoisomerase IV inhibitor fluoroquinolones are broad-spectrum antimicrobial agents. Structural variations of fluoroquilone scaffold have been carried out by study of structure activity relationships, at C-3 with amide link and at C-7 with substituted piperazin-1-yl groups. Pyridoquinolones structurally equivalence of fluoroquinolones have been synthesized by replacing fluoro group with chloro and hydroxyl groups at C-6 position, with fused pyrido ring. New synthetic route was developed for fluoroqinolone and pyridoquinolones. Schiff base, 4-thiazolidinone, 2-azetidinone, phenyl thiourea, phenyl urea, sulfonamide and peperazine have been linked to fluoroquinolone and pyridoquinolone with hydrolysable amide group. Study of antimicrobial activity have been performed against Gram positive, Gram negative and fungal microbes as well as Mycobacterium tuberculosis, which developed vast idea for structure activity relationships of library of 4-quinolone as well as pyridoquinolone analogous.

Transferrin Coupled Lipsosome for Enhanced Brian Delivery of Doxorubicn

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BIO-DATA

Dr. Vandana Soni is presently serving as associate professor in Department of Pharmaceutical sciences, Doctor Hari Singh Gour Vishwavidyalaya, Sagar, M.P,India. She obtained her B.Pharm, M.Pharm, Ph.D form Dr. H.S.Gour Vishwavidyala, Sagar. Dr.Soni has seventeen years of teaching experience at undergraduate level and five years at postgraduate level. She has Eight years of research experience and has guided two Ph.d. scholars and supervised Nine M.pharm research projects. Dr.Soni has 28 research Publications- 20 in International Journals and 08 in National Journals. She has presented 25 Research Papers and Published in National and International Conferences(12 in national and 13 in International conferences). She has also authored three text books. Dr.Soni has also contributed as a reviewer of many prestigious journals such as International Journal of Pharmaceutics, Journal of Controlled Release, Bantham Publication and Journal of medicinal plant research. She is a member of Indian Pharmaceutical Association, M.P. Pharmacy Graduates Association , Controlled Release Society and Association of Pharm. Teachers of India.

ABSTRACT

The objective of this study is to achieve enhanced delivery of water insoluble drug doxorubicin to brain through transferrin coupled liposomes. Drug loaded liposomes were prepared by the cast film method and characterized for particle size, shape, percent encapsulation efficiency and in vitro drug release. Doxorubicin was labelled with 99mTc-DTPA by oxidation-reduction method using stannous chloride and optimized for labelling parameters to get high labelling efficiency. The in vitro stability was determined to check the efficiency of system to find out the suitability of the radiolabelled system for in vivo studies. 99mTc-DTPA labelled doxorubicin bearing noncoupled and coupled liposomes were administered intravenously and biodistribution studies were performed. The distribution of doxorubicin via noncoupled and coupled liposomes was determined in various organs i.e. lungs, liver, kidneys, spleen and brain by measuring the radioactivity using gamma scintillation unit. Results of in vivo studies confirmed a selective uptake of the transferrin-coupled liposomes from the brain capillary endothelial cells. An average 7 fold increased brain uptake of the drug was observed after liposomal delivery of doxorubicin, while the transferrin coupled liposomes increased 10-14 fold brain uptake of doxorubicin. Therefore, it can be concluded that transferrin coupled liposomes enhance the brain uptake of the drug, like doxorubicin.

Hydrolytic degradation study of HMG CoA reductase inhibitors

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BIO-DATA

Dr. Renu Chauhan has completed her M.Pharm. degree in Quality Assurance from C.U.Shah College of Pharmacy, SNDT University, Mumbai and doctoral degree from Veer Narmad South Gujarat University, Surat on 'Stability Studies of HMG CoA Reductase Inhibitors'. She has over 15 years experience in the field of Pharmacy. She has worked as QA Executive with Pfizer Limited, Mumbai for 6 years where she was involved in activities like process validation, analytical method development, vendor certification, QA audits etc. She is presently working as Associate Professor at Maliba Pharmacy College, Bardoli since the last 4 years teaching subjects like Validation, GMP and Regulatory Affairs and as research guide to postgraduate students. Before joining Maliba Pharmacy College, she has worked with C.K.Pithawala Institute of Pharmaceutical Sciences and Research, Surat and Maharashtra Institute of Pharmacy, Pune. She has to her credit 2 international and 9 national publications.

ABSTRACT

Rosuvastatin, atorvastatin and simvastatin belong to the class of HMG CoA reductase inhibitors, also known as statin drugs, and are used to lower cholesterol levels in people with or at risk of cardiovascular disease. Acid hydrolysis is one of the prominent routes of degradation of statin drugs. The present work involves the degradation kinetics study of the three statin drugs in different strengths of acid at temperatures 250C and 500C. Three isocratic stability-indicating RP-HPLC methods were developed and validated for estimation of rosuvastatin, atorvastatin and simvastatin in presence of their respective acid degradation products. The degradation of rosuvastatin and atorvastatin followed first order kinetics and rate of degradation was found to increase with increase in temperature as well as with strength of acid. The kinetics of degradation of methanolic solution of simvastatin followed no particular order. Irrespective of the strength of acid and the immediate initial degradation of simvastatin, after a particular time, the amounts of simvastatin and its degradation products reached a limiting value and were in equilibrium with each other as confirmed by the mass balance.

Nano Liquid Crystalline (NLC) Systems in Pharmaceutical Research

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BIO-DATA

Dr. Prathima Srinivas is presently serving as a Professor and Head of Post Graduate Department of Pharmaceutics, Sri Venkateshwara College of Pharmacy, Madhapur, Hyderabad. She has done her Ph.D. in Pharmaceutics, M.Pharm from Nagpur University and B.Pharm from Kakatiya University, Warangal, Andhra Pradesh, India. Dr. Prathima has 10 years of academic experience and 4 years of Industrial experience as senior team leader in F&D for Strides Arcolab Ltd., Bangalore and as a Manager in F&D, Mylan laboratories Ltd., Hyderabad. She is currently involved in several collaborative research projects. She has presented papers and delivered lectures in several national and international Conferences. She has more than 25 review and research publications in international journals. She is also currently reviewer for reputed pharmacy journals in Novel Drug Delivery.Dr. Prathima has guided 30 students M.Pharm students in the industry and colleges. She has established parenteral lab for the first time in Matrix Laboratories Limited, Hyderabad and has worked on the first parenteral product of the company. She has 15 ANDA and two NDA filings for Oral and Parenteral products.

ABSTRACT

Liquid crystals are the substances with a well-defined three-dimensional structure comprising of co-existing lipophilic (lipid) and hydrophilic (aqueous) domains at nanoscale and these exhibit properties of both conventional liquid and solid crystals and due to these intermediate stage they are also called mesophases . Lipid liquid crystal (LLC) phase which is presented as a low-viscosity mixture of long-chain amphiphilic lipids, for example, a glycerolmonooleate (GMO) , glyceroldioleate (GDO) and phytantriol (PHY), together with small amounts of solvent (water)–which forms LLC phases. Lipid Liquid crystal (LLC) systems that commonly consist of ampiphilic molecules and solvents can be classified into lamellar, cubic, hexagonal mesophases and so on. In recent years, LLC systems have received considerable attention because of their excellent potential as drug vehicles. Amphiphilic polar lipids such as monoglycerides have shown promise in sustaining the drug release. Unsaturated monoglycerides such as monoolein or monolinolein form various types of liquid crystalline phases upon swelling in aqueous media. At body temperature, a cubic phase is formed via reversed micellar and lamellar phases upon increasing the water content. The cubic phase can be described as a very viscous, transparent gel. It is isotropic with curved liquid bilayers extending in three dimensions and separated by water channels. When compared to other liquid crystalline systems, the cubic phase is physically stable upon contact with excess water, it does not transform into other phases upon dilution with aqueous media such as body fluids. The amphiphilic nature can be used as a carrier for both hydrophilic and lipophilic drugs. The resultant phase structure depends on the packing of lipids within the structure which in turn depends on the lipid molecular geometry as well as environmental factors such as pH, ionic strength, temperature, pressure and the presence of additive. For oral delivery, the drug-containing monoglycerides can be melt-filled into capsules and then transformed in situ into the cubic phase upon contact with gastrointestinal body fluids. In case of parenterals, in order not to absorb additional water from the surrounding tissues after injection, the monoglyceride-based formulation should contain enough water and ideal viscosity for syringeability. In this lecture the phase behaviour and formulation aspects of nano liquid crystalline systems of glycerol monooleate for some hydrophobic drugs like glimepiride will be discussed. Although the lamellar phase has a lower viscosity and can be injected, the water content of this phase is lower than that of the cubic phase. Upon dilution with an aqueous phase, the lamellar phase was found to transform into the cubic phase by taking up water from the surrounding tissues. The objective of these studies in our lab was to develop low viscosity monoglyceride-based systems that transform into the highly viscous cubic phase after injection into the body.

Neural Modulation of Alcohol Addiction and Feeding Behavior

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BIO-DATA

Dr. Ganaraja is presently serving as Additional Professor in Department of Physiology, Kasturba Medical College, Bejaj, Manglore, India. Prof. Ganarajan obtained his M.Sc in Medical Physiology (1986) and Ph.D. in Neurophysiology (1996) from Kasturba Medical College, Manglore Univeristy, Manglore, India. Dr. Ganaraja has undergone training in various programmers such as Biophysics, Evaluation Methods. He is life member of Association of Physiologists and Pharmacologists of India (APPI) and Association of Biomedical Scientists of India (IABMS). He has attended and presented several research papers in various conferences/symposia in India abroad. He has also presented several full length research articles in various reputed national and international journals.

Dr. Ganaraja has been funded with amount of 3.618 million by Department of Biotechnology, Government of India, for his extensive research work on –"Role of Nucleus Accumbens and Related Subcortical Centers In Addictive and Consummatory Behavior of Male Wistar Albino Rats. Dr. Ganaraja is a tutor and lecturer in various Departments such as Physiology and Biophysics in Kasturba Medical College, Mangalore, Karnataka. He is a recognized guide for Ph.D. Scholars in Manipal University. He also has experience as Assistant Professor of Physiology at Asian Institute of Medicine, Science and technology, Sungai Petani, Malaysia and Bristol –UK syllabus (2002-2005). He has chaired scientific session at the 54th national conferences of Physiologist and Pharmacologists of India, 2008-APPICON. Dr. Ganaraja has contributed as reviewer of many prestigious Journals such as Journal of Neuroscience and behavioral health, Journal of Clinical and diagnostic research and IJBAR. He has also contributed a chapter in Best and Taylor's Physiological Basis of Medical Practice, 13th Edition, 2011. Dr. Ganaraja is a very enthusiastic person and has key involvement in various extra-curricular activities such as stage plays, Member of Staff Badminton team, KMC, Mangalore.

ABSTRACT

Nervous mechanisms involved in the control of addictive and ingestive behaviours are very complex and partly understood. Everyday new information emerges out on the roles of a number of subcortical centres in modulation of reward system and feeding. Nucleus accumbens (NAcc) is believed to be a central location, where dopaminergic terminals produce the reward phenomena. We found significant increase alcohol intake following lesions in the Nucleus accumbens. In Two bottle free choice situation between water and 2% ethanol, NAcc lesioned animals chose to drink more water compared to alcohol. The NAcc shell influences these behaviours more than the core. Focal infusion of Dopamine into NAcc decreased alcohol intake. Over all it appears that the increase in Dopamine at NAcc is the key for reward sensation, which is the basis of addiction. Dopaminergic inputs to NAcc arise from varied centres including Ventral tegmental area. Number of neural networks also connects NAcc and Basolateral Amygdala (BLA), where the latter has a direct role in the food and water intake and finickiness. Therefore this paper attempts at discussing the complex neuronal network and the identification of the neurotransmitters and neuromodulators which will be useful in understanding the basis of addiction, substance abuse and deciding on the appropriate treatment for this social disease.

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બાગાયતી ખેતી અપનાવો..

વધુ ઉત્પાદન, મુલ્યવર્ધન , પોષણક્ષમ આહાર, વધુ આવક

ફળ, શાકભાજી, મસાલા, ફૂલ અને સુગંધીત પાકોના ઉત્પાદન વધારવા ઉચ્ચ ટેકનોલોજીના ઉપયોગ, કલમો અને ધરુ ઉછેર તથા મૂલ્યવર્ધન-સંગ્રહ- બજાર વ્યવસ્થા માટે માળખાકીય સુવિધાઓ ઊભી કરવા વ્યક્તિગત તેમજ ખાનગી ક્ષેત્રોને ૪૦% થી ૭૫ % સુધી તેમજ જાહેર ક્ષેત્રોને ૧૦૦% સુધી આર્થિક સહાય. અનુસુચિત જાતિ, જનજાતિ તથા દેવીપૂજક ખેડૂતો માટે ખાસ સહાય.

- ફળ નર્સરી, શાકભાજી અને ફૂલ માટે પ્લગ નર્સરી, ટીસ્યુકલ્ચર લેબોરેટરીની સ્થાપના
- નવા ફળ,ફૂલ, શાકભાજી, સુગંધીત પાકો તથા મસાલા પાકોના કલ્સ્ટરમાં વાવેતર તથા જુનીવાડીના નવિનીકરણ
- સેન્દ્રીય તથા નિકાસલક્ષી બાગાયતી ખેતી અપનાવવા
- બાગાયતી પાકો માટે ગ્રીનહાઉસ અને નેટહાઉસની સ્થાપના, ટ્રેલીઝ/ મંડપ પધ્ધિતથી શાકભાજીની ખેતી મલ્ચીંગ, બર્ડનેટનો ઉપયોગ
- બાગાયતી પાકોમાં યાંત્રિકીકરણ, સંકલિત ખાતર - જીવાત નિયંત્રણ વ્યવસ્થા
- પ્લાન્ટ હેલ્થ કલીનીક, લીફ ટીસ્યુ એનાલીસીસ, બાયોકન્ટ્રોલ લેબની સ્થાપના
- જળ સંગ્રહ મારફત બાગાયતી વાડી
- મધમાખી ઉછેર મારફત પોલીનેશન વધારવા
- ખેડૂત તથા યુવાનોને સ્વરોજગારલક્ષી તાલીમો
- બાગાયતી પાકોના ગ્રેડીંગ-શોર્ટીંગ, પ્રોસેસીંગ એકમો તથા રાઇપનીંગ ચેમ્બર
- પ્રિ-કુલીંગ એકમ, કોલ્ડસ્ટોરેજ, રીફરવાન તથા પેકહાઉસની સ્થાપના
- બાગાયતી પાકોના ગ્રામ્ય તથા જથ્થાબંધ બજાર વ્યવસ્થા ઊભી કરવા

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- નાયબ બાગાયત નિયામકશ્રીની કચેરી, જીલ્લા કૃષિ વિસ્તરણ તંત્ર, એ.ટી.વી.ટી. ખાતે
- પોતાના ગામના કૃષિ મહોત્સવ –રથ રોકાણ દરમ્યાન અરજી આપી શકાય છે.
- ગામમાં જ ઇ–ગ્રામ તથા ઇન્ટરનેટથી www.hortnet.gov.in ઉપર ઓનલાઇન રજીસ્ટ્રેશન કરાવી શકાય છે.

વેબસાઇટ:- agri.gujarat.gov.in ઇમેલ આઇ.ડી.:- shmguj@yahoo.in

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3 - TRANSPORT OFFICE
4 - SECURITY GATE -4
5 - POLICE STATION
6 - SECURITY GATE -1
7 - BLOCK A- MECHANICAL & CHEMICAL ENGG. DEPARTMENT, COMPUTER CENTRE, CLASS ROOMS, OFFICE
8 - P.G. CENTER FOR INST.OF TECH.
9 - BLOCK C- OFFICE OF DIRECTOR INSTITUTE OF TECHNOLOGY, AUDITORIUM, INSTITUTE OF DIPLOMA STUDIES, COMP CENTRE, PLASTIC ENGG. LABORATARY, CLASS ROOMS,DRAWING HALLS.
10 - PLAY GROUNDS
11 - CONVOCATION STAGE
12 - OPEN AIR THEATRE
13 - WORK SHOP
14 - ELECTRICAL SUBSTATION BUILDING IT / IDS
15 - BLOCK B- CIVIL ENGG.DEPT., IT & COMP. LIBRARY,COMP. CENTRE, M.C.A.DEPART.
16 - CANTEEN BUILDING - STD & PCO ,BANK,® CELL, STUDENT STORE, STUDENT SECTION
17 - BLOCK D- ELECTRICAL ENGG., EC & IC DEPT., COMP ENGG. & IT.
18 - SECURITY GATE -2
19 - WATER FALL STRUCTURE
20 - INSTITUTE OF LAW,
21 - GENTS HOSTEL
22 - GIRLS HOSTEL
23 - DINING HALL, CANTEEN ,GYMNASIUM,ROBOTIC LAB, INDOOR GAMES ROOM
24 - U.G. WATER TANK (5 LACS LIT.)
25 - O.H. WATER TANK (2 LACS LIT.)
26 - M.D.P. HOSTEL&GUEST HOUSE,BOYS HOSTEL.
27 - SECURITY GATE -3
28 - INSTITUTE OF MANAGEMENT, UNIVERSITY OFFICE,AUDITORIUM.
29 - FOOD COURT
30 - INSTITUTE OF PHARMACY
31 - ANIMAL HOUSE (INST. OF PHARMACY)
32 - ELECTRICAL SUBSTATION BUILDING N.I.M.
33 - INSTITUTE OF SCIENCE (NEW BLDG. W.I.P.)
34 - HERBAL GARDEN

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