VISION
To build a humane society through excellence in education and health care.

MISSION
To develop Nitte University as a centre of excellence, imparting quality education, generating competent, skilled manpower to face the scientific and social challenges with a high degree of credibility, integrity, ethical standards and social concern.
Greetings!

Pharmacy education in India has come a long way since the Banares Hindu University (BHU) first offered the Bachelor’s degree in Pharmacy to aspiring candidates nearly eighty years ago. After 10 years into the new millennium, as educators we must ask ourselves; have we met our goals in ensuring that our graduates are equipped for jobs in fields of research, hospital and clinical pharmacy? Can they keep up with their foreign counterparts in overseas jobs? Are they ready to face the global challenges in the technological advancement of patient health care?

Unfortunately we have lagged far behind our western counterparts in educating and training our students as future pharmacy professionals. In the developed countries, pharmacy education is not just knowledge based, it is competency and skill based. To keep up with the rapidly growing economy in India and world wide, the pharmacy profession too is undergoing globalization. As a consequence, there is an urgent need to upgrade pharmacy education in India and revamp the curriculum and the proposed new syllabus for B.Pharm by the A.I.C.T.E may be a step in the right direction.

The new curriculum should not only keep up with advancement in drug formulation technologies but also incorporate Industry–Institute Interaction, different teaching technologies, collaboration with foreign universities, distance education, etc. It should also touch upon pharma-administration (including patent laws), pharmacoeconomics and information technology and software development for pharmaceuticals. Community Pharmacy, Hospital and Clinical Pharmacy need to be strengthened. Finally it goes without saying that all this without necessary facilities and infrastructure will be like striking a noisy gong!

Above all, as teachers we should be continually aware of the impact or impression that we leave with the students that may go a long way in influencing their careers.

Marina Koland, Executive Editor

Release of the inaugural issue of ‘The NGSMIPS Herald’

The first issue of the ‘The NGSMIPS Herald’ was released on 25th February, 2010 by Sri N. Vinaya Hegde, Chancellor of the Nitte University in the presence of Dr. M. Shantharam Shetty, Vice Chancellor, Nitte University; Sri Vishal Hegde, Trustee; Sri Rajendra, Finance Director; Dr. Sudhaker Nayak, Registrar; Dr. A.P Krishna, Registrar (Evaluation) and Prof. Rajasekhar M, Registrar, Nitte Education Trust, Dr. C.S Shastry, Principal and Chief Editor, Mrs. Marina Koland, Executive Editor, Dr. Jane Jacob, Staff Editor and Mr. Harish N.M, Faculty of NGSM IPS. The newsletter will be covering events and research activities of faculty and students and will be published on a quarterly basis.

From the Editor’s desk

The first issue of ‘The NGSMIPS Herald’ was released on 25th February, 2010 by Sri N. Vinaya Hegde, Chancellor of the Nitte University in the presence of Dr. M. Shantharam Shetty, Vice Chancellor, Nitte University; Sri Vishal Hegde, Trustee; Sri Rajendra, Finance Director; Dr. Sudhaker Nayak, Registrar; Dr. A.P Krishna, Registrar (Evaluation) and Prof. Rajasekhar M, Registrar, Nitte Education Trust, Dr. C.S Shastry, Principal and Chief Editor, Mrs. Marina Koland, Executive Editor, Dr. Jane Jacob, Staff Editor and Mr. Harish N.M, Faculty of NGSM IPS. The newsletter will be covering events and research activities of faculty and students and will be published on a quarterly basis.

Dubai Alumni Meet

The alumni of the Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences who are based in Dubai got together at the Poolside venue of the Dubai Grand Hotel on 18th March, 2010 to organize an alumni meeting and felicitate some of the visiting faculty members. The meet was chaired by the guest of honour, Mr. B.G Mohandas, head of the department, hospital and clinical pharmacy services, GMC University Teaching Hospital, Dubai and former faculty of Manipal University. The visiting faculty included Prof. Dr. R. Narayana Charyulu, Prof. Dr. Prashanth Shetty and Nisha Girish Shetty, Senior Lecturer. Former faculty, Ronald D’Souza was also felicitated.

In his inaugural address, Mr. B.G Mohandas applauded the NGSMIPS alumni as a very vibrant and active group of professionals and said that he looked forward to many such professional and family meetings in the coming months. He emphasized the importance of the alumni keeping in touch with the college and the faculty for continual improvement of the Pharmacy community.

Marina Koland, Executive Editor
Campus Buzz

One Day National Seminar

The NGSM Institute of Pharmaceutical Sciences, Deralakatte organized a one day national seminar on “Basic Concepts of Computer Aided Drug Design & its Applications in Pharmacy” on 5th February 2010, at KSHHEMA Seminar Hall, Deralakatte which was sponsored by Nitte University, Mangalore. At the inaugural ceremony, Dr. H.V Sudhaker Nayak, Registrar, Nitte University was the Chief guest while Sri. N.Vinaya Hegde, Chancellor presided over the function.

The resource persons for the scientific session were Professor emeritus, Dr. V M Kulkarni from Poona College of Pharmacy, Pune, who delivered a talk on, “The Use of Computers in Drug Design & Discovery”; Dr. Gautam Shenoy, Professor, Manipal College of Pharmaceutical Sciences, Manipal spoke on, “Fragment based Drug Design and Dr. Aravind Badiger, Director, Shri Dhanavantari Pharmaceutical Analysis & Research Centre, Surat delivered a lecture on toxicity prediction.

Cultural Week Organized

The Institution organized a cultural week from 5th to 7th April 2010. Students participated in a number of events such as Flower Arrangement, Traditional day, Rangoli, Mehendi and ‘Cooking without flame’ with enthusiasm. This competitive spirit also culminated in the celebration of ‘Cultural Day’ on 13th April, 2010 at the KSHHEMA Auditorium, Deralakatte where other events like singing, dance, skit, Mock-press, fancy dress and spot dance were conducted.

Annual Day Celebrated

The College Annual Day was celebrated on 11th May 2010 at K.S.Hegde Auditorium, Deralakatte. Sri. N.Vinaya Hegde, Chancellor, Nitte University was the guest of honor and Dr. M. Shantharam Shetty, Vice Chancellor, Nitte University was the chief guest of the evening. During the occasion, the Sri. K Sriharsha Memorial Gold Medals for the best outgoing B.Pharm and M.Pharm students for the year 2008-2009 were awarded to Mr. Anil Karthik and Ms. Lakshmi T.N. respectively. The Department of Pharmaceutics also conferred a gold medal to Ms. Sowmya Kulal, M.Pharm Scholar for academic excellence in Pharmaceutics.

B.Pharm Students Visit SDM Ayurvedic Pharmacy and Alva’s Ayurvedic Pharmacy

A one day visit to the SDM Ayurvedic Pharmacy (Manufacturing Unit of Ayurvedic formulations), Udupi, was organized by the Department of Pharmaceutics, for the third year B. Pharm students on April 5th, 2010.

A similar visit was also arranged for the third year students to the Alva’s Ayurvedic Pharmacy (Manufacturing Unit of Ayurvedic formulations) and “Shoba Vana” (Medicinal Plant’s Garden) Moodbidri, on 22nd May 2010. These visits are a part of the “Industry-Academia” interaction, whereby the students interacted with the industry community pertaining to the manufacturing processes as well as the study of different medicinal plants, which they come across during their course of study.
**Blood Donation Camp at NGSMIPS**

The NSS wing of the Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, Deralakatte, Mangalore in association with the Wenlock District Government Hospital, Mangalore organized a blood donation camp on the 4th of June, 2010 at the college premises. The camp was inaugurated by Prof. Rajshekar, Registrar, Nitte Education trust. In his address, he urged the students to donate blood and save life. He dispelled some of the misconceptions about donating blood. Dr. Puneeth, Blood bank Officer, Wenlock District Govt. Hospital, Mangalore explained the importance of blood donation. The function was presided over by the Principal, Dr. C.S. Shastry.

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**Guest Lectures**

The Institution witnessed several guest lectures given by august personalities in various fields of research, medicine and academics.

The Department of Pharmaceutics, NGSM Institute of Pharmaceutical Sciences, Mangalore invited Dr. Sharath, Secretary of Indian Red Cross Society, Udupi Branch, to lecture on “First Aid” on 10th February 2010 in the college premises.

Dr. Ajay G. Namdeo, Asst. Professor, Department of Pharmacognosy and Phytochemistry, Poona College of Pharmacy, Bharati Vidyapeeth delivered a lecture on “Medical plant biotechnology” on 16.04.2010.

The faculty and students were given an interesting insight into the area of ayurvedic therapeutics by Dr. Muralidhar R. Ballal, General Manager, SDM Ayurveda Pharmacy, Udupi, who spoke at length on “Introduction to Ayurveda Pharmaceutics and Therapeutics”. The lecture was organized by the Department of Pharmaceutics, on 27th April 2010, in the college premise.

A guest lecture on “Plasmonial, a Novel Cure for Malaria” was delivered by Dr. Prakash U, Medical Director, Prime Ever Ayurvedic Research Laboratories (PEARL), Gujarat on 04.05.2010.

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**New Appointments**

Ms. Jainey James, *M. Pharm*, was appointed as Junior Lecturer in the Department of Pharmaceutical Chemistry.

Ms. Elizebeth Xavier, *M. Pharm* and Ms. Teresa George Poozhikanadakel, *M. Pharm* were appointed as Junior Lecturers in the Department of Pharmaceutics.

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**Promotions**

Dr. Ronald Fernandes from the Dept. of Pharmaceutical Chemistry was promoted to Professor from 1st March 2010.

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**NANOTECHNOLOGY : RISK TO HEALTH AND ENVIRONMENT**

*Compiled by: Uchil Deepika Vijaykumar*

*II M.Pharm (Dept. of Pharmaceutics)*

Nanotechnology can be defined as the manipulation, precision, placement, measurement, modeling, or manufacture of sub-100 nanometer scale matter.

It is being hailed as the “next industrial revolution”. Nanomaterials are now found in hundreds of products, from cosmetics to clothing to food products which includes sunscreen lotions, lipsticks, wrinkle free clothing, long lasting paints, electronics, building material, medicines to name a few.

The fact that the particles are small means they have a larger surface area to volume ratio which greatly increases their chemical reactivity. Nanoparticles can greatly improve...
pharmaceuticals because of their size, structure, behavior and hence can be used to combat illness beyond the reach of conventional drugs. Nanomaterials can repel stains or kill bacteria and are being incorporated into fabrics. Food industries are experimenting with nano particles that can be incorporated into packaging materials which can detect spoilage and pathogens. Cosmetic companies have developed products with nanoparticles which because of their microscopical size allow sunscreens and moisturizers to perform better. These are just some of the current near to market applications.

Nanotoxicology is a sub-speciality of particle toxicology. It addresses the toxicology of nanoparticles (particles <100 nm diameter) which appear to have toxicity effects that are unusual and not seen with larger particles.

Scientific studies have demonstrated that there is potential for materials that are benign in bulk form to become harmful at the nanoscale. Because of their extreme small size these particles easily gain access into the body and tend to overload the body’s defense mechanism (the phagocytic mechanism) due to which the body fails to destroy the foreign matter and causes inflammation or weaken the defense of the body to other pathogens. An example: the rod like nanostructutes (nanowires and carbon nanotubes) which are often compared with asbestos is due the similarity in their structures. Asbestos exists in fibrous form, when these are inhaled; the macrophages in the lungs phagocyte the particle however fails to destroy it and hence signals rest of the body that the body is under the attack of a foreign particle. These results in chronic inflammation commonly referred to as asbestosis.

Another ailment caused by asbestos is mesothelomia, a form of lung cancer where asbestos fibres have penetrated into the cavity surrounding the lungs (pleura) with resultant plaque creation on the epithelial cells found.

The hazardous effects caused by asbestos rely on the fibres’ small dimensions and the body’s inability to destroy the substance. These characteristics are also commonly found among nanoparticles. Since the nanoparticles are even smaller they can easily penetrate into the blood vessels surrounding the lungs and from there access the entire body.

The greater chemical reactivity of nanomaterials results in increased production of reactive oxygen species (ROS), including free radicals. ROS production has been found in a diverse range of nanomaterials including carbon fullerenes, carbon nanotubes and nanoparticle metal oxides. ROS and free radical production is one of the primary mechanisms of nanoparticle toxicity; it may result in oxidative stress, inflammatory cytokine production, and consequent damage to proteins, membranes and DNA-causing mutation of DNA, structural damage to mitochondria and even cell death. They may also get adsorbed easily on to the surface of macromolecules and interfere with the regulatory function of enzymes and proteins.

Broken skin is an ineffective particle barrier suggesting that acne, eczema, shaving wounds or severe burns may accelerate skin uptake of nanomaterials.

Nanoparticles of titanium dioxide used in various cosmetics, sunscreens and food products have shown to cause damage to the supercoiled DNA. It has also shown to negatively affect the cellular function and complete damage to brain immune cells within 24 hrs in test tube experiments in the absence of UV light. UV light activated titanium dioxide is known to affect the skin fibroblast and nucleic acids.

Silver nanoparticles used in toothpates, washing machines, face creams, clothing, packaging materials and household appliances and wound dressings claim to possess potent ability to kill bacteria. However the potential risk lies in the fact that these may also kill the beneficial bacteria in the environment or may also cause the bacteria to become resistant to the treatment with antibiotics. Test tube experiments have also proved that these particles are dangerous to rat brain cells, mouse stem cells and rat liver cells.

Carbon fullerenes which are commonly used in moisturizers, creams claim to have caused brain damage in fishes and kill water fleas. These particles are known to localize in the cell nuclei and are toxic to the human liver cells and skin connective tissue.

In an experiment in Tottori University, Japan, researchers showed that within a minute of contacting the mice’s tiniest airways, carbon nanotubes began to burrow through gaps between the surface lining cells and into the blood capillaries, where the negatively charged nanoparticles latched onto the normally positively charged red blood cells surface, thereby potentially causing the red blood cells to clump and the blood to clot.

At present, safety assessment protocols for products possessing engineered nanoparticles are poorly structured. However, at the current pace of research, we may need several years or decades to clearly establish the health and environmental risks from engineered nano-scale particles. Although research on the adverse effects of nanoparticles on human health is progressing rapidly, environmental fate of nanoparticles is still in its infancy.

REFERENCES:
DEPARTMENT ACHIEVEMENTS

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

Research Publications

DR. JENNIFER FERNANDES

DR. JANE JACOB

MR. REVANASIDDAPPA B.C.

PAPERS PRESENTED AT CONFERENCES

Mr. Revana Siddappa B.C presented a poster at the National Institute of Technology Karnataka, Surathkal from Mar 8th – 10th (2010) in the National Conference on Recent Trends In Chemical Research on the topic,” Synthesis, antibacterial, antifungal, antioxidant activity of 1,2,4-triazolo-thiadiazoles”.

Ms. Janey P James, Lecturer, presented a Paper as poster presentation on “Synthesis, Characterization and Anticancer activity studies of some substituted Pyrazolines” at a One day users meeting - NMR Research Centre, IISc, Bangalore which was held on 9th March 2010.

RESEARCH GRANT
Dr. K. Ishwar Bhat, Professor & Head, Department of Pharmaceutical Chemistry was sanctioned a grant of Rs.25,000/- for the study on “Antivenin property of root extract of coix lacrimalobi for the treatment of Indian poisonous snake venoms” by the Nitte University, Mangalore.

DEPARTMENT OF PHARMACEUTICS

Research Publications

DR. R. NARAYANA CHARYULU

MRS. MARINA KOLAND

MR. PRABHAKARA PRABHU

PAPERS PRESENTED AT CONFERENCES

Dr. R. Naryana Charyulu, Professor & Head, Department of Pharmaceuticals, and Vice-Principal of the Institution presented a poster at International Conference, Dubai, on “Ethosomal drug delivery of clotrimazole for topical use”. The paper was also co-authored by Mr. Harsh NM and Mr. Sudhakar C K.

Mr. Sreedharan, Assistant Professor, presented a poster on “Anti hypertensive pharmacotherapy- physician perspectives and prescribing patterns in three South Indian hospitals” at the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), 15th annual international meeting at Hilton Atlanta, Atlanta, GA USA from 15th to 19th 2010. He was also a recipient for the ISPOR travel grant of $1500.

Mr. Prabhakara Prabhu, Assistant Professor, presented a paper in the form of Poster presentation on “Preparation and Evaluation of liposomes and niosomes of Brimonodine Tartrate as an ocular drug delivery system” at 10th International symposium, Mumbai. 10th International symposium on “Advances in technology and business potential of new drug delivery systems”. This conference was held on 17 & 18th Feb’2010 at Mumbai, organized by CRS-Indian chapter. The paper was also co-authored by Mr. Harish NM, K. Vijaynarayana, Ganesh Dhondge and Dr. R Narayana Charyulu.

Mr. Harish NM, Lecturer, presented a paper as poster on “Preparation of Extended Release Matrix Tablets of Atorvastatin using Interpolymer Complex” at the 10th International symposium, Mumbai on “Advances in technology and business potential of new drug delivery systems”. This conference was held on 17 & 18th Feb’2010 at Mumbai, organized by CRS-Indian chapter. This paper was also co-authored by Dr. R. Naryana Charyulu and Dr. Vishalakshi.

Mrs Nisha G Shetty, Senior Lecturer, presented a paper as Poster at International Conference, Dubai on 15th – 17th March 2010 entitled “In situ gelling solution for ocular administration of dexamethasone sodium phosphate”. The Paper was also co-authored by Mrs Marina Koland, Mr Raghavendra and Dr. R. Narayana Charyulu.

RESEARCH GRANT
Mr. Prabhakara Prabhu, Assistant Professor and Mrs. Marina Koland, Associate Professor were sanctioned Rs.1,13,000/- for their project entitled “Optimization of budesonide enteric formulations for colonic delivery” by the Nitte University, Mangalore.

The Nitte University, Mangalore approved a grant of Rs. 9,500/- to Mr. Prabhakara Prabhu and Mr. Nithish Kumar, M. Pharm Scholar for their research project entitled,
Investigation of Liposomes of Brimonodine Tartrate as an ocular drug delivery system

The Nitte University, Mangalore also approved a joint inter-department project entitled “Toxicological Investigation of Novel Polysaccharide Polymer Khaya Gum” by Mr. Prabhakara Prabhu and Mr. Gururaj M P, Lecturer, Department of Pharmacology for a grant of Rs. 21,000/-

STUDENT ACHIEVEMENTS

Mr. Rakshit Shetty, Second Year M.Pharm, Department of Pharmaceutics, presented a paper as Poster presentation on “Formulation and evaluation of coated liposomes of methotrexate for targeted delivery” at the 10th International Symposium on “Advances in technology and business potential of new drug delivery systems”. This conference was held on 17 & 18th Feb’2010 at Mumbai, organized by CRS-Indian chapter. The paper was also co-authored by Mr. Prabhakara Prabhu.

DEPARTMENT OF PHARMACOGNOSY

Research Publications

DR. CHANDRASHEKAR K.S


DEPARTMENT OF PHARMACOLOGY

Research Publications

DR. PRASHANTH SHETTY


PAPERS PRESENTED AT CONFERENCES

Dr. D. Prashanth Shetty, Professor presented a poster titled “Genotoxicity studies of *Memecylon umbellatum* leaves” at the 15th Dubai International Pharmaceuticals Technologies Conference and exhibition (Duphat) at Dubai, UAE on 15th – 17th March 2010.

NON TEACHING FACULTY

Mr. Chandrashekar D, Librarian attended a three day National Workshop on “Exploring Open Sources, DSpace, RSS Audacity & Library Blogs” from 9th to 11th June 2010 held at NMAM Institute of Technology, Nitte.

Congratulations!

Lakshmi T.N
M Pharm


Sowmya
M Pharm

Awarded a Gold Medal Sponsored by the Dept. of Pharmaceutics, NGSMIPS for excellence in academic performance in M Pharm (Pharmaceutics 2008-09)

M. Anil Karthik
B Pharm


Deepika Uchil
II M Pharm

Secured 1st Rank in M.Pharm (Pharmaceutics) examination held in April 2010 under Nitte University, Deralakatte.

NGSMIPS Faculty at DUPHAT Conference, Dubai

Dr. R Narayana Charyulu, HOD Dept. of Pharmaceutics, Dr. Prashanth Shetty, Professor, Dept. of Pharmacology & Mrs. Nisha Girish Shetty, Senior Lecturer, Dept. of Pharmaceutics at the DUPHAT (Dubai International Pharmaceuticals and Technologies Conference) Dubai, March 2010
Cultural Week - April 2010

Rangoli Competition

Cooking without Fire

Mehendi Competition

Annual Day
11th May 2010

Book Post