

ANNUAL REPORT

JANUARY – DECEMBER 2012

**Annual Report of Manipal College of Pharmaceutical Sciences
Manipal
January - December 2012**

Manipal College of Pharmaceutical Sciences (MCOPS), a constituent college of Manipal University, was established in 1963. MCOPS is recognized by Pharmacy Council of India and AICTE, New Delhi and the National Board of Accreditation. AICTE has accredited the college with "A" grade and the college is ISO-9001:2008 and ISO:14001:2004 certified.

MCOPS has entered its fiftieth year in 2012. MCOPS' Golden Jubilee celebrations are being conducted during 2012 - 2013. Inauguration of Golden Jubilee celebrations was held on January 28, 2012 during Annual Day Celebrations.

The college conducts D Pharm, B Pharm, M Pharm, Pharm D and Pharm D Post Baccalaureate and PhD programmes. During the current (2012-13) academic year, 85 B Pharm, 30 Pharm D, 8 Pharm D Post Baccalaureate and 126 M Pharm candidates were admitted. The total student strength is 813, the breakup of which is as follows: B Pharm (I-IV) 404, Pharm D (I-V) 148, Pharm D Post Baccalaureate (I-III) 28, M Pharm (I, II) 229 and PhD 46.

The results of B Pharm, Pharm D and M Pharm programmes are as follows.

Programmes	Appeared	Promoted %
I B Pharm	81	86
II B Pharm	92	89
III B Pharm	82	91
IV B Pharm	109	95
I Pharm D	30	97
II Pharm D	34	88
III Pharm D	26	96
IV Pharm D	23	100
I Pharm D Post Baccalaureate	10	100
II Pharm D Post Baccalaureate	10	100
III Pharm D Post Baccalaureate	9	100
M Pharm - Part I	103	100
M Pharm - Part II	103	100

During the academic year 2011-12, 115 B Pharm candidates, 103 M Pharm candidates, 9 Pharm D - Post Baccalaureate candidates and 11 PhD candidates successfully completed their courses. At present MCOPS Alumni strength is 5378, comprising 1316 D Pharm, 2588 B Pharm, 1366 M Pharm, 9 Pharm D Post Baccalaureate and 107 PhD alumni.

MCOPS has ten post graduate specializations i.e Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy, Pharmaceutical Marketing, Pharmaceutical Administration, Pharmacy Practice, Pharmaceutical Quality Assurance, Drug Regulatory Affairs and Pharmaceutical Biotechnology.

Manipal College of Pharmaceutical Sciences, Manipal has 75 experienced teaching faculty members, 5 faculty members from other sister institutions of Manipal University, 40 Adjunct and guest faculty members from various reputed companies and institutions and about 75 supporting staff members.

Achievements of Faculty Members and Research Scholars

Overall Achievements	Upto 2011	2012	Total
Papers published in International and National journals	1301	99	1400
Presentations in International and National conferences	1351	92	1443
Books Published	11	-	11
Patents Granted	08	-	08
Patents filed	06	-	06
Research Projects Completed	69	21	90
Research Projects ongoing	35	14	49
Ph.D. Completed	96	11	107
Ph.D. Registered	80	18	98
Workshops /Conferences conducted	140	18	158

The following dignitaries visited MCOPS and delivered lectures during 2012:

- ☞ Prof Radhakrishna Sharma from Dr K S Hegde Institute of Management, Mangalore was Resource Person for the Workshop on “Financial Education” which was conducted for Final Year B Pharm students on 12th January 2012.
- ☞ Dr. Gopal Mugeraya, Dean, National Institute of Technology, Karnataka visited and inspected the college on behalf of AICTE on 7th February 2012 with regard to various grants sanctioned to our institution by AICTE.
- ☞ Dr. Manohar Pai, CEO, Manipal University Technology Business Incubator and Associate Director, Innovation Centre, Manipal Institute of Technology delivered a talk on “Manipal University Technology Business Incubator” on 5th March 2012.
- ☞ Dr. Iain McIntosh, Dean of Faculty and Dr. Sophie Foley, Academic Coordinator from Edinburgh Napier University, Scotland visited Manipal College of Pharmaceutical Sciences on 15th March 2012 with regard to dual degree programme in Advanced Pharmaceutical Sciences.
- ☞ Sri Sankara Subramanian Krishnan and Dr. M Ramanathan visited MCOPS for PCI Inspection of Pharm D and Pharm D – Post Baccalaureate Programmes during April 8-10, 2012.
- ☞ Dr. Amit Khanna, Head – Global Regulatory CMC, Novartis, Hyderabad interacted with the members of Communication Club of Manipal College of Pharmaceutical Sciences on 19th April 2012.
- ☞ Dr. Gopal Kundu, Scientist – F, National Centre for Cell Science, Pune delivered a talk on “Application of Nanoparticle and Nanomedicine in the treatment of Cancer” on 21st April 2012.
- ☞ Prof. Pramanik, Professor, Indian Institute of Technology, Kharagpur delivered a talk on Application of Magnetic Nanoparticle in Biology” on 23rd April 2012.
- ☞ Representatives of Manipal University Technology Business Incubator (MUTBI visited Manipal College of Pharmaceutical Sciences on 27th October 2012 to brief about “Provenance 2012”, a business plan competition conducted by MUTBI.
- ☞ Dr. Ranjeny Thomas, Professor, University of Queensland, Australia delivered a talk on 10th December 2012.

- ☞ Dr. Harendra Parekh, Associate Professor, School of Pharmacy, University of Queensland, Australia and Adjunct Professor of Manipal College of Pharmaceutical Sciences, Manipal delivered a talk on 13th December 2012.
- ☞ Dr. Praveen Rao, School of Pharmacy, University of Waterloo, Canada and Alumnus of Manipal College of Pharmaceutical Sciences, Manipal delivered a lecture on “Drug Discovery - Alzheimer disease” on 18th December 2012.
- ☞ M Ram Kamineni, Senior Director, Global Manufacturing Key Projects of Mylan, Philadelphia, USA visited MCOPS on December 24, 2012 and interacted with faculty members, research scholars and PG students.

GOLDEN JUBILEE MEMORIAL LECTURES :

- ☞ Mr. Ramesh Adige, former Chairman of Ranbaxy Laboratories Ltd, New Delhi and Director of Syndicate Bank addressed and delivered a special lecture on “Future prospects of pharmaceutical business” on 23rd March in connection with the Golden Jubilee Celebrations of Manipal College of Pharmaceutical Sciences, Manipal.
- ☞ Dr. M V Kamath, Hon. Director, Manipal Institute of Communication and President, Prasara Bharathi delivered a lecture on “Indian Medicine - Ancient to Current Times” on 25th April 2012.
- ☞ Dr. M S Valiathan, National Research Professor, Manipal Life Sciences Centre delivered a lecture on “New trends in Biomedical Research - Ayurvedic Biology” on 26th April 2012.
- ☞ Dr. P. Gundu Rao, Former Principal MCOPS and Research Director - Divi's Laboratories Ltd delivered talk on “Questions which are not frequently asked about IPR” on 28th May 2012.
- ☞ Dr. M.N.A. Rao, Former Principal MCOPS and Divi's Laboratories Ltd. Delivered lecture on “Metaphors in Science” on 28th May 2012.
- ☞ Dr. H S Ballal, Pro Chancellor, Manipal University, Manipal delivered a lecture on “Radiology - An Update” on 22nd June 2012.
- ☞ Dr. G Jagadeesh, Senior Expert Pharmacologist, US Food and Drug Administration (USFDA), Maryland, USA and Adjunct Professor of Manipal College of Pharmaceutical Sciences, Manipal conducted a half-day Seminar on the topic “Excellence in writing research proposals, funding, research methodology and scientific writing” on 18th December 2012.
- ☞ Dr. Raj P. Warriar. Former Vice Chancellor, Manipal University delivered lecture on “New Therapeutic Approaches” on January 12, 2013.

Academic Prizes & Awards for the year 2011-12:

1. For standing first in I B Pharm for the academic year 201-12 to Ms Dookhee Nabiihah Begum, Ms Beenaben Bahadursinh Mahida, Ms Modasia Jinita Bhupendra and Ms Puspita Sahu
2. For standing first in II B Pharm for the academic year 2011-12 to Ms Vora Bhavisha and Ms Krutika
3. For standing first in III B Pharm for the academic year 2011-12 to Ms R Devi
4. For standing first in IV B Pharm for the academic year 2011-12 to Ms Akriti Kaura.
5. The Best outgoing student in Pharm Chemistry subjects of B Pharm course for the year 2011-12 prize, endowed by Prof N K Basu to Ms Aayushi Sharma.
6. The First Rank holder in B Pharm for the year 2011-12 instituted by B P R L, Bangalore and M/s Pfizer Ltd, Mumbai to Ms Sanchari Basu Mallik
7. For standing first in Pharmacognosy subjects of B Pharm course for the year 2011-12, prize instituted by Dr M A Iyengar, Mr Rajendra Singh, Dr G M Rao, Dr D R Kulkarni, Mr SGK Nayak, Dr C R Srinivas and Mr S Dwivedi to Ms Sanchari Basu Mallik
8. The Best student in Pharmacology subjects of B Pharm course for the year 2011-12, prize endowed by Dr M N Guruswamy to Ms Adreeja Basu, Ms Misha Bhanubhai Prajapati, Ms Vandna Lalji Bhudia, Ms Arpita Ratna Kanbi & Ms Sanchari Basu Mallik
9. The Best outgoing student in all Pharmaceutics subjects of B Pharm course for the year 2011-12, Prize endowed by late Ms P S Sundari in memory of her father late Pappu Sundaram & Prof N Krishnamoorthy to Mr Kundan Kumar Keshari
10. The Best student in Medicinal Chemistry-II and Pharmacology II subjects of the final year B Pharm course for the year 2011-12 prize instituted by Dr KVSRG Prasad and Dr KK Srinivasan in the memory of their teacher Late Prof S Sankarasubramanian to Ms Akriti Kaura and Ms Aayushi Sharma
11. For standing first in M Pharm Part-I for the academic year 2011-12 instituted by Mr Deepak Kini and Mr Pradeep Nayak K, USA to Ms Jessy John
12. FDC Scholarship for the year 2011-12 instituted in the name of "Anand Chandavarkar Memorial Scholarship" for final year B Pharm student who scores highest marks and pursues post graduation in MCOPS to Ms Akriti Kaura

13. FDC Scholarship for the year 2011-12 instituted in the name of "Atmaram Dattatreya Chandavarkar Memorial Scholarship" for B Pharm graduate of MCOPS who pursued M Pharm course at MCOPS and scored highest marks among B Pharm students who joined M Pharm PG course of MCOPS, Manipal in M Pharm Part I examination to Mr Anil Kumar Sariki
14. Best M Pharm Part-II Project work (Dissertation work) for the year 2011-12 sponsored by Mr B Srinivasa Reddy, M/s MEDREICH Limited, Bangalore to Mr Y Rajesh
15. Dr M D Burande's Institute of Pharmaceutical Education & Research Award for the year 2011-12 for standing First in M Pharm Part I in Pharmacy Management to Mr Soorada Jitendra
16. Dr P Gundu Rao's Meritorious Award for the best outgoing student of the M Pharm course for the year 2011-102 to Ms Neelam Ashokkumar Suthar.
17. Lupin Award for 'Topper in M Pharm Part I- Pharmaceutics Specialization' for the academic year 2011-12 to Mr Baldha Parinkumar Dhirajlal
18. For standing first in First Pharm D programme for the academic year 2011-12 to Ms Meenakshi Srinivasan
19. For standing first in Second Pharm D programme for the academic year 2011-12 to Mr Ashwin Karanam Raghunath.
20. For standing first in Third Pharm D programme for the academic year 2011-12 to Ms Beena Annie Sam
21. For standing first in Fourth Pharm D programme for the academic year 2011-12 to Ms Nandita Ragoo
22. For standing first in Second Pharm D Post Baccalaureate programme for the academic year 2011-12 to Ms Arveen Kaur
23. Travel/Contingency grant to Full time PhD Scholars of MCOPS, Manipal instituted by Dr N Udupa, Principal, MCOPS, Manipal for the year 2011-12 to Mr Om Prakash Ranjan, Mr G Aravind Kumar, Mr A Muthu Kumar and Ms Pallavi K
24. Annual Best Research Paper Award in Pharmaceutical Sciences of Manipal University instituted by Dr N Udupa, Principal, MCOPS, Manipal for the year 2011-2 to Dr A Ranjith Kumar
25. Good Teacher Award based on students' evaluation to Dr Alex Joseph, Associate Professor, Department of Pharmaceutical Chemistry, MCOPS

26. Good Supporting Staff Award based on students' evaluation to Mr Krishna D Amin, Senior, Laboratory Technician, Department of Pharmaceutical Quality Assurance, MCOPS, Manipal.
27. Teacher of the Year Award for 2012 instituted by Dr N Udupa, Principal, MCOPS to Dr M K Unnikrishnan, Professor & HOD, Department of Pharmacy Practice, MCOPS, Manipal.
28. Supporting Staff of the Year Award for 2012 instituted by Dr N Udupa, Principal, MCOPS to Mr Krishna Prabhu, Senior Clerk, MCOPS, Manipal.
29. Distinguished Alumni Awards 2012 to Dr Harish, Dr Praveen Bommu, Mr P Prakash Babu, Mr Prashanth Kamath, Mr MLVP Surendra Nath Sai, Mrs Kirti Sachin Chopra and Dr Jessy E Mathew
30. Hospital Pharmacy Foundation of IHPA, New Delhi award for the Best Outgoing student of Pharm D Programme for the academic year 2011-12 goes to Mr Earla Jagadeswara Rao.

Workshops / Seminars/ Conferences/ Alumni Meet were conducted during the Year 2012 in MCOPS, Manipal

- 1 Manipal IPC Annual Commemoration Symposium was conducted on January 27, 2012. Dr. B Suresh (President, Pharmacy Council of India and Vice Chancellor of JSS University, Mysore), Dr. MNA Rao (Director, R&D, Divi's Lab, Hyderabad), Mr. Jatish N Shet (Shrishti Labs, Bangalore), Dr. Amit Khanna (Novartis, Hyderabad) and Mr. S G Biligiri, (President, KDPM, Bangalore) were the main speakers.
- 2 National Seminar by Indian Society of Nanosciences was held at MCOPS on January 27, 2012. Dr. H Vinod Bhat inaugurated the programme in the presence of Mr. M V Kamath (Honorary Director, Manipal Institute of Communication, Manipal), Dr P. Chandra Sharma (Senior Scientist G & Associate Dean - PhD Programme, Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST), Thiruvananthapuram) and Dr. P D Gupta (Adjunct Professor, MCOPS)
- 3 The Annual Industry Institute Interaction of the Industry Institute Partnership Cell (IIPC) was held on January 27, 2012. Many eminent resource persons from industry participated in this event. The aim of the cell was to bridge the gap between academic curriculum and industry expectation.
- 4 MCOPS Alumni Meet was held on January 28, 2012. Besides the faculty of MCOPS, several outstation alumni attended the meet. Dr. Premalatha, Mr. Krishna Kumar, Mr. Ganapathi Shenoy and Mr. Niranjan Puthran who received the Distinguished Alumni Award.
- 5 National Seminar by Association of Community Pharmacists of India (ACPI), Association of Practicing Pharmacists and Clinical Pharmacologists (APPCP), and International Society of Pharmacoeconomics and Outcome Research (ISPOR), Manipal Chapter held on January 28, 2012. Dr. Atmaram Pawar (Vice Principal & Head, Bharati Vidyapeeth University, Poona College of Pharmacy, Pune) and Dr. Arun Garg (General Secretary, IPGA) were the Chairman and Co-chairman respectively, for the seminar.
- 6 27th Annual Convention of Indian Pharmacy Graduates' Association on "Future of Pharmacy Professionals: 2020" was held during January 28-29, 2012. Dr. K Ram Narayan (Vice Chancellor, Manipal University) inaugurated

the convention in the presence of Dr. Arun Garg, Mr. S L Nasa, Dr. B Suresh and Mr. M V Kamath.

- 7 The 48th Annual Conference of Indian Hospital Pharmacists' Association (IHPA) on "Advancing Skills for Future Practice" was held at Manipal College of Pharmaceutical Sciences during February 18 - 19, 2012. The conference was inaugurated by Dr. H Vinod Bhat (Pro-Vice Chancellor, Manipal University), Mr. M V Kamath (Honorary Director, Manipal Institute of Communication), Dr. R R Pulgaonkar (Medical Superintendent, Kasturba Hospital), Mr. S L Nasa (President, IHPA) and Mr. A K Adhikari (Treasurer, IHPA).
- 8 A two-day Annual Convention of Indian Pharmaceutical Association (IPA) was held at Manipal under the aegis of Manipal College of Pharmaceutical Sciences during March 17-18, 2012 with the theme "Excellence in Pharma Profession." This also coincides with the Silver Jubilee of IPA Manipal Branch.
- 9 National workshop on "Conducting Population-Based Clinical Outcomes Research" was held on April 19, 2012 under the auspices of International Society of Pharmacoeconomics and Outcome Research (ISPOR) India-Karnataka chapter. Dr. G K Prabhu (Registrar, Manipal University) inaugurated the programme in the presence of Dr. N Udupa (Principal, MCOPS).
- 10 Manipal College of Pharmaceutical Sciences, Manipal organized ICMR sponsored symposium on "Infectious Diseases" on April 21, 2012. This programme was held under the aegis of the Department of Pharmacy Practice, MCOPS. Dr. K Ram Narayan (Vice Chancellor, Manipal University) was the Chief Guest and Dr. Arunachalam Kumar (Dean, KS Hegde Institute of Medical Sciences, Mangalore) was the Guest of Honour.
- 11 1st Annual Convention of Consortium of Progressive Indian Pharmaceutical Associations of Manipal on "Excellence in Pharma Research, Technology, Profession and Practice" during 7 - 8 July 2012. Dr. H Vinod Bhat (Pro Vice Chancellor, Manipal University) inaugurated the convention in the presence of veteran journalist Mr. M V Kamath. The convention was marked by lectures from several eminent resource persons on topics of relevance to pharmacists and their profession.

QIP and Summer Training Programme at MCOPS

12 Manipal College of Pharmaceutical Sciences (MCOPS) once again embarked on a series of Quality Improvement Programmes (QIP) related to academic exercises during the summer vacation. The aim of these programmes is to provide a platform for teachers from various pharmacy colleges to update their knowledge and skills.

AICTE (New Delhi) sponsored three such two-week long QIPs which were held from 28 May to 8 July 2012. Expert resource persons from within the college and outside delivered special lectures and conducted live demonstrations of procedures and processes.

13 The XI Summer Training programme for postgraduate students, co-ordinated by Dr. P D Gupta and Dr. N Udupa, was inaugurated on May 28, 2012. Dr. H S Ballal inaugurated the programme. More than 50 PG students, mainly drawn from MCOPS, participated in this month-long course.

14 National Workshop in PK/PD at MCOPS: A three-day workshop on "Pharmacokinetic and Pharmacodynamic models: Concepts and applications" was held at Manipal College of Pharmaceutical Sciences (MCOPS) during August 23-25, 2012. Dr. H Vinod Bhat (Pro-Vice Chancellor, Manipal University) inaugurated the workshop. The workshop was conducted by Department of Pharmacy Practice, MCOPS, Manipal.

15 17th Annual National Convention of the Association of Pharmaceutical Teachers of India was held under the auspices of Manipal College of Pharmaceutical Sciences, Manipal University during October 12 - 14, 2012. The theme of the Convention was "Road map for strengthening Pharma Education in Changing Scenario". The convention attracted pharmacy teachers and postgraduate students from pharmacy colleges across India.

16 5th Annual National Convention of Indian Association of Pharmaceutical Scientists and Technologists (IAPST) was held at Manipal College of Pharmaceutical Sciences on November 4, 2012. Theme of the convention was "Gateway to Excellence in Pharma Research and Development by 2020". IAPST is an association that promotes research in pharmaceutical sciences and technology

- 17 Workshop on Nuclear Magnetic Resonance: Concepts & Interpretation of Spectra during November 26 - 28, 2012 was organized by Department of Pharmaceutical Chemistry, MCOPS, Manipal.
- 18 5th International Conference on Medicinal Plants and Herbal Products was held during January 25-27, 2013.

OTHER ACTIVITIES HELD DURING 2012 IN MCOPS, MANIPAL

- ☞ Drug Information Association – Student Chapter was inaugurated at Manipal College of Pharmaceutical Sciences, Manipal on 16th March 2012. This Student Chapter is the first of its kind in India.
- ☞ Retreat Programme was organised during 30th January to 2nd February 2012 at Vythiri Resorts, Wayanad for the Heads of the Departments of MCOPS and MCOAHS, Manipal.
- ☞ Industrial tour to Bangalore and Goa was successfully conducted for the benefit of final year B Pharm students between 7th and 8th February 2012.
- ☞ The inauguration of Golden Jubilee celebrations and Annual Day of Manipal College of Pharmaceutical Sciences was celebrated with pomp and gaiety on 28th January 2012 at Chaithya Hall of Fortune Inn Valley View. Dr. B Suresh, Vice Chancellor of JSS University, Mysore was the Chief Guest. Three eminent pharmaceutical professionals – Mr. S L Nasa, President, Indian Hospital Pharmacists' Association, Dr. Arun Garg, General Secretary, Indian Pharmacy Graduates' Association were the special guests of honour. Dr. Ramdas M Pai, Chancellor, Dr. H S Ballal, Pro-Chancellor and Dr. K Ramnarayan, Vice Chancellor, Manipal University graced the occasion by their presence.
- ☞ Students of MCOPS, Manipal successfully participated in Utsav, annual cultural event of Manipal University held during April 2012.
- ☞ College Magazine (2011-12) 'Neo 2012' of Manipal College of Pharmaceutical Sciences released by Dr Ullas Kamath, Dean, Melaka Manipal Medical College on
- ☞ 12th DBT Task Force Meeting on Nano Biotechnology held in Manipal College of Pharmaceutical Sciences during 23rd and 24th April, 2012.
- ☞ **Felicitation of Retired Teachers and Supporting Staff:** This being the Golden Jubilee Year, the college decided to felicitate former teachers and retired supporting staff in a fitting way. The first of these felicitation functions was conducted on May 28, 2012. Ten former faculty members and fifteen members of the supporting staff made it to the function. Dr. P Gundu Rao, Prof. Krishnamurthy and Dr. M N A Rao spoke about their association with MCOPS. They marvelled at the growth of the college in the last few years and credited the present principal Dr. N Udupa and his team for making the college a top-notch institution.

- ☞ Staff Club of MCOPS organized “Surabhi” a cultural / talents day programme for the benefit of teaching and non teaching staff of MCOPS on July 16, 2012.
- ☞ Orientation Programme for the newly joined B Pharm and Pharm D students was conducted between July 23 and 24, 2012. For M Pharm students, orientation programme was conducted on 6th August 2012.
- ☞ As part of the ongoing Golden Jubilee celebrations of Manipal College of Pharmaceutical Sciences (MCOPS), a quiz competition- the National Pharmacy Quiz- was conducted on Saturday, 18 August 2012. At the end of eight rounds of questions, the hosts (MCOPS) emerged as the top team while Srinivas College of Pharmacy, Mangalore secured the second and Siddaganga College of Pharmacy, Tumkur, the third positions. The winning team, comprising Mr Anil Kumar Sariki and P Sai Kiran, collected a cash prize of two thousand rupees. Ms Reshmy Vasavan and Ms Amrita Dessai from Srinivas College of Pharmacy took the second prize of one thousand rupees while Prasanna Kumar R and Jadiswami of Sri Siddaganga College of Pharmacy went back with the third prize of five hundred rupees.
- ☞ A Blood Donation Camp was organized jointly by IPA Manipal Branch, KSPOR, ISPOR Manipal Chapter and ACPI.
- ☞ The weeklong National Pharmacy League Cricket T20, which began on 27 March 2012, concluded at Manipal on Monday 2 April. The event was to complement the academic programmes, a number of which were held during the Golden Jubilee year of MCOPS. Six colleges, representing five universities played this tournament. The colleges were: MCOPS (Manipal University), NGSU College of Pharmacy (Nitte University), KLE College of Pharmacy (KLE University), National College of Pharmacy, Shimoga and Srinivas College of Pharmacy Mangalore (Rajiv Gandhi University of Health Sciences) and C L Baid Metha College of Pharmacy Chennai (Tamil Nadu Dr. MGR Medical University). Dr H S Ballal (Pro Chancellor, Manipal University) inaugurated the tournament.
- ☞ “Students’ Council” for the Academic year 2012-13 of Manipal College of Pharmaceutical Sciences was inaugurated on 10th October 2012.
- ☞ A Brain Storming Session on “Pharmaceutical Nanobiotechnology” was conducted on 23rd April 2012.

- ☞ The National Pharmacy Week was celebrated at Manipal College of Pharmaceutical Sciences on 30th November 2012.
- ☞ MCOPS Manipal has successfully published 'Pharmag' quarterly research journal, Indian Journal of Hospital Pharmacy (IJHP) and online Indian Journal of Community Pharmacy.
- ☞ The activities of AICTE sponsored Quality Improvement Programme Cell, Industry Institute Partnership Cell, Nationally Coordinated Project Cell, IPA Manipal Branch, Journal club and staff club etc were successfully conducted during 2012.
- ☞ Campus interviews were conducted by reputed pharmaceutical companies of India like Indegene Life systems Pvt. Ltd., Biocon Pvt. Ltd, Medeka Pvt Ltd, Orchid Pvt. Ltd. Bangalore, Lupin Pharma, Pune, Fincure Nutraceuticals, Global Data Management Pvt Ltd and Wintac Pharma. The placement of PG students of MCOPS, Manipal was 100% during 2012. Under graduates students opting for jobs placed suitably. More than 80% of the under graduate students opted for higher studies in India / Abroad.
- ☞ Association of Community Pharmacists of India (ACPI), Manipal Unit conducted basic health check up every month in Manipal College of Pharmaceutical Sciences for the benefit of staff and students.
- ☞ Elocution competition by Indian Pharmaceutical Association (IPA), Manipal Branch was held on September 29, 2012. Urvashi Diwan (M Pharm) bagged first prize while Aersh Danish (IV B Pharm) and Narayanam Bharadwaj won second and third prizes respectively.
- ☞ Essay competition in English on the topic, "Pharmacists Role in Public Health" was held on 30th November 2012 as part of National Pharmacy Week celebrations. The first, second and consolation prizes were won by Raheem Farista (M Pharm), Mishra Sanjaykumar (M Pharm) and Aersh Danish (IV B Pharm), respectively.
- ☞ As part of the ongoing Golden Jubilee celebrations of Manipal College of Pharmaceutical Sciences, six teachers of Manipal University were felicitated in a simple, yet dignified function on 15th January 2013. These six teachers are Dr. A Krishna Rao and Dr. P Laxminarayana Rao (both former Deans of KMC and Professors of Physiology), Dr. P G Shivananda (Professor of Microbiology, KMC), Dr. PLNG Rao (former Registrar

of MAHE), Dr. N R Rau (Professor of Medicine, KMC) and Dr. K Ramnarayan (Vice Chancellor of Manipal University).

Obituary

☞ Mr Sudarsan P J, M Pharm Part I student of Pharmacy Practice Department, Manipal College of Pharmaceutical Sciences, Manipal passed away on 23rd May 2012. Dr Veeresh S Maddi, Alumnus of MCOPS passed away on 6th May 2012. The staff and students of MCOPS condoled their deaths and expressed solidarity with their bereaved families.

Research Report

January 2012 to December 2012

Manipal College of Pharmaceutical Sciences, Manipal University,
Manipal 576104, Karnataka, India

Contents

- A. Prizes and Awards received by faculty
- B. Travel Grants
- C. Publications in National and International Journals
- D. Papers presented at National and International Conferences
- E. PhD Degree Awardees
- F. Equipment Available for carrying Research Activities
- G. Golden Jubilee Celebration Activities
- H. Achievements
- I. Research Grants Received
- J. Ongoing Research Projects

A. Prizes and Awards received by Faculty

1. Dr. Shaila Angela Lewis, Associate Professor, Department of Pharmaceutics, MCOPS received the Best Poster Award for her poster entitled "Formulation and Evaluation of an Antidiabetic and Antihypertensive in a single dosage form" under category of professional poster in DUPHAT (Dubai International Pharmaceuticals & Technologies Conference & Exhibition) held in Dubai during March 12 -14, 2012.
2. International Society for Pharmacoeconomics and Outcomes Research (ISPOR) Outstanding Student Chapter Award - Third Best Student Chapter Globally to Manipal College of Pharmaceutical Sciences, Manipal University.
3. Yogendra Nayak, Vijay Mor and M.K. Unnikrishnan: Indian Journal of Pharmaceutical Education and Research (IJPER) Best Research Paper published in 2011. Prof. B.M.Mithal Memorial Award for Pharmaceutical Education, October 2012.
4. Dr. N.Udupa: Prof C J Shishoo Award in October 2012 for his research in pharmaceutical Sciences initiated by Association of Pharmaceutical Teachers of India (APTI), October 2012.



Dr. N.Udupa receiving Dr. C.J. Shishoo Award.

5. Dr. N.Udupa: Acharya P. C. Ray Gold Medal Award for great achievement and service to Profession of Pharmacy by Indian Pharmaceutical Association (IPA), November 2012.



Dr. N.Udupa receiving Acharya P.C. Ray memorial award.

6. Dr. N.Udupa: Schroff Memorial National Award for Contribution as a scientist and drug researcher by Indian Hospital Pharmacists Association (IHPA), December 2012.



Dr. N.Udupa receiving Schroff Memorial Award.

7. Chirag Dhingra, Sherin Babykutty, S.D. Vachala and K.S.R. Pai. In vitro evaluation of the apoptotic potential of novel pyrimidine analogs. Department of Pharmacology, Manipal College of Pharmaceutical Sciences, Manipal University, Manipal – 576104, Karnataka, India. Presented at 64th IPC, Chennai, December 7-9, 2012. **Received 2nd Prize in poster presentation.**
8. Praveen KS, Y Rajesh, VM Subrahmanyam, J Venkata Rao. Screening Of Soil Samples For Isolation Of Cyclodextrin Glycosyltransferase Producing Microorganisms. Department of Pharmaceutical Biotechnology, Manipal College of Pharmaceutical Sciences, Manipal University, Manipal – 576104, Karnataka, India. Presented at 64th IPC, Chennai, December 7-9, 2012. **Received 2nd Prize in poster presentation.**

9. Vachala SD. Docking, Synthesis and Biological Evaluation of some novel 5-substituted-1,3,4-thiadiazol-2-amines ad their Schiff base. Presented at Diabetes mellitus and Cancer (Dia-Can' 12), DBT-CSIR sponsored International Conference at Annamalai University from December 14-16, 2012. **(Best Oral Presentation Award)**.
10. Annual Best Research Paper Award in Pharmaceutical Sciences of Manipal University instituted by Dr N Udupa, Principal, MCOPS, Manipal for the year 2011-2 to Dr A. Ranjith Kumar.
11. Jagtap D. "Studies on Optimization of production parameters for improving the yield of microbial secondary metabolite with microbicidal and cytotoxic activity." Department of Pharmaceutical Biotechnology, MCOPS, Manipal. Best Paper selected for Oral presentation during 64th IPC, Chennai, December 7-9, 2012.

B. Travel Grants

Recipients of Travel Grant instituted by Dr. N.Udupa for full time research scholars working in MCOPS include:

1. Mr. Omprakash (Presentation at 64th Indian Pharmaceutical Congress, Chennai, Dec 7-9, 2012).
2. Mr. G. Aravind Kumar (Presentation at 5th Nanobio, Bangalore from December 6-7, 2012).
3. Ms. Pallavi K. (Presentation at 64th Indian Pharmaceutical Congress, Chennai, Dec 7-9, 2012).
4. Mr. A. Muthukumar (Presentation at 6th ICEHT conference 2012, Tirupati, Dec 20-22, 2012)

C. Publications in National and International Journals

2011 received in 2012

1. Lobo R, Sodde V, Dashora N, Gupta N, Prabhu K. Quantification of Flavonoid and Phenol Content from *Macrosolen parasiticus*(L.) Danser. Journal of National Product Plant Resources, 2011;1(4): 96-99.
2. Nayak RK, Narayana Swamy VB, Senthil A, Jose J, Mahin M, Mahalaxmi R. Formulation and Evaluation of Melt - In - Mouth Tablets of Rizatriptan Benzoate. RGUHS Journal of Pharmaceutical Sciences, 2011; 1(3):186-92.
3. Koteswara KB, Das A, Naha A, Reddy MS and Singh P. Chronotherapeutic Methodology of Naproxen Delivery for Rheumatoid Arthritis. International Journal of Drug Formulation and Research, 2011; 2(6):212-26.
4. Koland M, Charyulu RN, Vijayanarayana K, Prabhu P. In vitro and In vivo evaluation of Chitosan buccal films of ondansetron hydrochloride. International Journal of Pharmaceutical Investigation, 2011; 1(3): 164-71.

5. Kulkarni RV, Boppana R, Mohan GK, Mutalik S, Kalyane NV. pH-responsive interpenetrating network hydrogel beads of poly (acrylamide)-g-carrageenan and sodium alginate for intestinal targeted drug delivery: Synthesis, in vitro and in vivo evaluation. *J Colloid Interface Sci.*, 2012; 367(1); 509-12.
6. Mutalik N, Usha Y N, Kalra R, Kumar A, Kulkarni RV and Parekh HS. Sonophoresis - mediated permeation and retention of peptide dendrimers across human epidermis. *Skin Research and Technology*, 2012; 18:101-07.
7. Jayashree BS, Alam A, Nayak Y, Kumar V. Synthesis of 3-methylflavones and their antioxidant and antibacterial activities. *Medicinal Chemistry Research*, 2012; 21:1991-96.

Published during January 2012- December 2012

1. Chandran PR, Naseer M, Udupa N and Sandhyarani N. Size Controlled synthesis of biocompatible gold nanoparticles and their activity in the oxidation of NADH. *Nanotechnology*, 2012; 23(1): 015602.
2. Gupta A, Udupa N, Sreedhar D. Fixed - Dose Combinations. *Pharmaceutical Technology*, 2012:1-4.
3. More SM, Mutalik S, Kulkarni RV and Kalyane NV. Formulation and Evaluation of Sodium Alginate Discs for Prolonged Release of Glipizide. *Journal of Pharmacy Research*, 2012; 5(1): 389-390.
4. Joseph S, George S, Shekhar S and Meera NK. Antibiotic Resistance - A Global Threat to Human Society. *International Journal of Pharma Research*, 2012: 1-3.
5. Sekhar S. and Vyas N. Fetal Alcohol Spectrum Disorders. *Sudanese Journal of Public Health*, 2012; 7(1):12-16.
6. Naik AN. and Joy J. Perspectives in Regulations of Internet Pharmacy. *The Pharma Review*, 2012: 73-77.
7. Kumar BSA, Lakshman K, Jayaveera KN, Shekar SD, Khan S, Tippeswamy BS, Veerapur VP. Antidiabetic, antihyperlipidemic and antioxidant activities of methanolic extract of *Amaranthus viridis* Linn in alloxan induced diabetic rats. *Experimental and Toxicologic Pathology*, 2012;64:75-79.
8. Ananth PH, Khan S, Chandrasekhar R and Ibrahim M. Development of Validated HPTLC method for simultaneous quantification of rutin and quercetin from Bark of *Anogeissus latifolia*. *International Journal of Pharmacy*, 2012; 2(1): 33-38.
9. Shreedhara CS, Aswatha Ram HN, Zanwar SB and Gajera FP. In Vitro Antioxidant Potential of Ethanolic Extract of *Momordica dioica* Roxb (Cucurbitaceae). *Pharmacologyonline*, 2012; 3: 622-33.

10. Nekkanti H, Mateti UV, Vilakkathala R, Thiyagu R, Rajan S, Padmakumar R. Predictors of warfarin-induced bleeding in a South Indian cardiology unit. *Perspectives in Clinical Research*, 2012;3(1): 22-25.
11. Shah S, Vasantharaju SG, Arumugam S, Muddukrishna BS, Desai N. Development of a Sensitive Bioanalytical Method for the quantification of Lacosamide in Rat Plasma. Application to Preclinical Pharmacokinetics Studies in Rats. *Arzneimittelforschung*, 2012; 62: 243-246.
12. Aswatha Ram HN, Srivastava NK, Makhija IK, Shreedhara CS. Anti-inflammatory activity of Ajmodadi Churna extract against acute inflammation in rats. *Journal of Ayurveda & Integrative Medicine*, 2012; 3(1): 33-37.
13. Naha A, Pai G, Usha YN, Reddy MS, Koteswara KB and Udupa N. Implementation of Task based learning for overall development of pharmacy students. *Research Journal of Pharmaceutical and Technology*, 2012; 5(2): 291-94.
14. Gupta D, Chandrashekar KS, Lobo R, Gupta N, Reshma K. Pharmacognostic and Phytochemical Investigation of the Stem Bark of *Bauhinia purpurea*. *International Research Journal of Pharmacy*, 2012; 3(2): 166-68.
15. Archana, Kumar S., Mahalaxmi R, Shirwaikar AA, Shirwaikar A. Physico - Chemical characterization and evaluation of disintegrating property of *Lepidium sativum* seed mucilage. *Journal of Pharmacy Research*, 2012; 5(1): 61-65.
16. Krishna TV, Datta MV, Krishna YSS, Aditya V, Bhanuprakash. Comparative study on the Teaching Effectiveness of Chalk & Talk and Microsoft Powerpoint presentation from the student perspective. *International Journal of Pharmacy and Pharmaceutical Sciences*, 2012; 4(1): 191-93.
17. Pai GK, TV Krishna, Reddy MS, Krishna YSS, Aditya V, Bhanuprakash G, Datta MV. Physical evaluation of the uncoated tablets of Glimepiride with different types of primary packaging. *Research Journal of Pharmaceutical and Technology*, 2012; 5(3): 404-07.
18. Maheswari R, Sathyanarayana, Chandrashekar KS, Sangeetha B, Kumar KNS, Saha S. Isolation of Triterpenoids from Petroleum Ether Extract of Stem Bark of *Anthocephalus cadamba*. *International Journal of Pharma World Research (IJPWR)*, 2012; 3(2):1-8.
19. Maheshwari R, Sathyanarayana D Chandrashekar KS, Sangeetha B, Kumar KNS, Saha S. Anti-Snake Venom Activity of Stem Bark of *Anthocephalus cadamba*. *International Journal of Pharma World Research*, 2011; 3(2): 1-8.
20. Datta V, Chandrashekar KS, Lobo R, Gupta D, Gupta N. *Micheliachampacalinn*: A Review of its Ethnobotany Phytochemical and Pharmacological Profile. *International Journal of Pharma World Research*, 2012; 3(2): 1-8

21. Muragundi PM, Tumkur A, Naik AN. Unethical Marketing Practices by Pharmaceutical Industry. *The Pharma Review*, 2012: 144- 47.
22. Muragundi PM, Tumkur AM, Shetty RK, Naik AN. Health - related quality of life Measurement. *Journal of Young Pharmacists*, 2012; 4(1): 54.
23. Sreedhar D. Substitute Decision Making - an Ethical Dilemma. *Journal of Medical Ethics Response to article Patients' perspectives of the substitute decision maker: who makes better decisions?* *Med Ethics* 2011;37:9 523-525.
24. Vikas P and Naik AN. Medicines for Tomorrow - The Monoclonal Antibodies. *The Pharma Review*, 2012: 48-51.
25. Chandrashekar KS, Harikiran, Gupta D. Antioxidant and anti - inflammatory activity of *Alstonia scholaris* R.Br. Stem bark extract. *Free Radicals and Antioxidants*, 2012; 2(2): 55-57.
26. Koteswara KB, Naha A, Choubey B. Novel Economical Technique for the Formulation of Fast Dissolving Tablet. *Research Journal Pharmaceutical and Technology*, 2012; 5(4): 483- 489.
27. Vasantharaju SG, Namita P, Hussein SS. Quantification of Domperidone, Paracetamol, Esomeprazole and Lansoprazole in Pharmaceutical Dosage forms by Reverse Phase High Performance Liquid Chromatography. *International Journal of Pharmacy and Pharmaceutical Sciences*, 2012; 4(3): 303-306.
28. Rajesh R, Vidyasagar S, Varma DM, Sharma S. Design and evaluation of pictograms for communicating information about adverse drug reactions to antiretroviral therapy in Indian human immunodeficiency virus positive patients. *Journal of Pharmaceutical and Biomedical Sciences*, 2012; 16(10): 1-11.
29. Mateti UV, Nekkanti H, Rajesh V, Thiyagu R, Rajan MS, Ramachandran P. Pattern of Angiotensin-Converting Enzyme Inhibitors Induced Adverse Drug Reactions in South Indian Teaching Hospital. *North American Journal of Medical Sciences (NAJMS)*, 2012; 4(4): 185-89.
30. Kumar P, Mandahasan A, Kumar VS, Sanghai DB, Shreedhara CS, Setty MM. Production of Secondary Plant Metabolite Phyllanthin In *Phyllanthus niruri* Linn. by Leaf Tissue Culture. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, 2012; 3(2): 752-760.
31. KSR Pai, Srilatha P, Suryakant K, Setty MM, Nayak PG, Rao CM, Baliga MS. Anticancer Activity of *Berberis aristata* in Ehrlich Ascites Carcinoma - Bearing Mice: A preliminary Study. *Pharmaceutical Biology*, 2012; 50(3): 270- 277.

32. Lobo R, Bhagat J, Ballal M and Gupta N. Histo - anatomical Study of *Anisochilus carnosus* (L.F.) Wall: An Indian Habitant. *Research Journal of Medicinal Plant*, 2012; 6(6): 456-460.
33. Ladda A, Acharya LD, Shalini, Thunga G. Development and Validation of Patient Information Leaflet. *Indian Journal of Hospital Pharmacy*, 2012; 49: 72-78.
34. Averineni RK, Shavi GV, Ranjan OP, Deshpande PB, Kumar GA, Usha YN, Reddy MS, Udupa N. Formulation of Gliclazide Encapsulated Chitosan Nanoparticles: In Vivo Evaluation. *NanoFormulation- RSC Publishing*, 2012: 77- 85.
35. Gupta D, Chandrashekar KS, Lobo R, Yogendra and Gupta N. In-vitro Antidiabetic activity of stem bark of *Bauhinia purpurea* Linn. *Der Pharmacia Lettre*, 2012; 4(2): 614-19.
36. Gupta D, Chandrashekar KS, Lobo R, Gupta N. Anthelmintic Activity of Stem Bark of *Bauhinia purpurea* Linn. *Der Pharmacia Lettre*, 2012; 4(2): 662-64.
37. Kumar SV, Sanghai DB, Rao CM, ShreedharaCS. Histological and Physiochemical Standardization of *Melia Azedarach*. *Asian Pacific of Tropical Biomedicine*, 2012: 284-289.
38. Viswanatha GL, Priyadarshini J, Nandakumar K, Saravanan J, Srinath R, Shylaja H. Synthesis and antihistaminic activity of 3H-benzo [4,5] thieno [2,3-d][1,2,3] triazin-4-ones. *Saudi Pharmaceutical Journal*, 2012; 20: 45-52.
39. Kumar S, Shweta, Singh N, Setty MM, Arti. Combination of Natural Drugs: An Emerging Trend in Cancer Chemotherapy. *Journal of Drug Delivery & Therapeutics*, 2012; 2(3): 97-105.
40. Ranjith Y, Janodia MD, Jagadish PC, Bhat KM, Karande S, Udupa N. Scenario of Generic Drug Regulations for ASEAN Countries. *Inventi Rapid: Pharmacy Practice*, 2012;(3):1-8.
41. Janodia MD, Sreedhar, Virendra, Ajay, Pradeep, Prashant M and Udupa N. Importance of Patent Drafting and Types of Patent claims. *The Pharma Review*, 2012: 46-48.
42. Averineni RK, Shavi GV, Gurram AK, Deshpande PB, Arumugam K, Maliyakkal N, Reddy MS and Udupa N. PLGA 50:50 nanoparticles of paclitaxel: Development, in vitro anti-tumor activity in BT - 549 cells and in vivo evaluation. *Bull. Materials Sciences*, 2012;35(3): 319-26.
43. Merghade S, Musmade PB and Moorkoth S. High- Performance Liquid chromatographic Assay Ziprasidone in plasma samples: Application to Pharmacokinetics studies in rats. *Journal of Chromatographic Science Advance Access published*, 2012: 1-7.
44. Ranjith Y, Jagadish PC, Janodia MD, Vasantharaju SG, Shenoy G, Udupa N. An overview of Non-prescription drug regulations for India, United States, Australia and Europe. *Inventi Rapid: Pharmacy Practice*, 2012; 1: 1-6.

45. Venkatachalam H, Nayak Y, and Jayashree BS. Evaluation of the Antioxidant Activity of Novel Synthetic Chalcones and Flavonols. *International Journal of Chemical Engineering and Applications*, 2012; 3(3): 216-19.
46. Bansal P, Paul P, Mudgal J, Nayak PG, Pannakal ST, Priyadarsini KI, Unnikrishnan MK. Antidiabetic, antihyperlipidemic and antioxidant effects of the flavonoid rich fraction of *Pilea microphylla* (L.) in high fat diet/streptozotocin-induced diabetes in mice. *Experimental and Toxicologic Pathology*, 2012; 64: 651-58.
47. Kini SG, Choudhary S, Mubeen M. Synthesis, docking study and anticancer activity of coumarin substituted derivatives of benzothiazole. *Journal of Computational Methods in Molecular Design*, 2012; 2(1): 51-60.
48. Bhalki N, Balaraju TC, Vinayaka NT, Rajkumar PN, Sreekantha, Sudhakar GK and Yogesh B. To Compare The Outcome of Minor Anorectal Surgeries Under Local Anaesthesia Versus Spinal Anaesthesia. *International Journal of Pharma and Bio Sciences*, 2012; 3(3): B187-201.
49. Sharma A, Madaan A and Naik AN. Medication Storage and Self Medication Practice among the youth in Karnataka Region, India. *International Journal Pharmaceutical Sciences and Research*, 2012; 3(8): 2795-2800.
50. Kumar N, Vasanthaj P, Jayshree BS, Kar SS, Anandam A, Thomas S, Jain P, Rai A and Rao CM. Elucidation of Structure- activity Relationship of 2 Quinolone Derivatives and Exploration of Their Antitumor Potential Through Bax- induced Apoptotic Pathway. *Chem Biol Drug Des*, 2012; 80: 291-99.
51. Prabhu P, Shetty R, Koland M, Vijayanarayana K, Vijayalakshmi KK, Nairi H, Nisha GS. Investigation of nano lipid vesicles of methotrexate for anti-rheumatoid activity. *International Journal of Nanomedicine*, 2012; 7:177-86.
52. Paul P, Bansal P, Nayak PG, Pannakal ST, Priyadarsini KI, Unnikrishnan MK. Polyphenolic fraction of *Pilea Microphylla* (L.) protects Chinese Hamster Lung Fibroblasts against Y- Radiation- induced cytotoxicity and genotoxicity. *Environmental Toxicology and Pharmacology*, 2012; 33:107-19.
53. Sujitha M, Thangamariappan G, Mahalaxmi R. Preparation and Evaluation of Orally disintegrating tablets of Telmisartan with pH independent release. *International Journal of PharmTech Research*, 2012; 4(3): 1154-58.
54. Chandrashekar GP, Chandrashekar KS, Abinash B and Rajalakshmi. Analgesic activity of *Anthocephalus cadamba* stem bark extract. *Novel Science International Journal of Pharmaceutical Sciences*, 2012; 1(6):353-55.

55. Dhayabaran D, Florance J, Nandakumar K, Indumathi, Muralidhar. Anticonvulsant activity of alcoholic root extract of *Cardiospermum halicacabum*. *Revista Brasileira de Farmacognosia. (Brazilian Journal of Pharmacognosy)*, 2012; 22(3): 623-29.
56. Sudhakar GK, Verma R, K. Vijaya Bhaskar, Kumar L. Therapeutic Drugs Causing Thyroid Disorders. *Advances in Pure and Applied Chemistry*, 2012; 1(3): 54-57.
57. Sudhakar GK, Verma R, K. Vijaya Bhaskar, Kumar L. Heavy Metals in Environment, Living Systems and Herbal Preparation: An Overview. *International Research Journal of Pharmacy*, 2012; 3(7): 128-31.
58. Kini UR, Kamath D, Mahalaxmi R. Formulation and Evaluation of Carbamazepine Extended release tablet by controlled Erosion Technology. *International Journal of Pharmacy and Pharmaceutical Sciences*, 2012; 4(4): 345-51.
59. Sudhakar GK, K Vijaya Bhaskar, Verma R. A Review on Ionic Liquids - Useful Reaction green solvents for the future. *Journal of Biomedical and Pharmaceutical Research*, 2012; 1(2): 7-12.
60. Rajesh V, Rajan MS, Vijayanarayana K. Sravanthi KL, Gabriel R and Rao BHA. Development of Trigger tool for identifying adverse events in surgery department of an Indian tertiary care teaching hospital. *International Journal of Pharmacy Practice*, 2012; 20 (Supplement 2).
61. Rama M, Gayathri V, Acharya LD, Attur RP, Reddy PN and Raghavan SV. Assessment of Drug - Drug Interactions among Renal Failure Patients of Nephrology Ward in a South Indian Tertiary Care Hospital. *Indian Journal of Pharmaceutical Sciences*, 2012;74(1): 63-68.
62. Makhija IK, Shreedhara CS, Aswatha Ram HN. Physico - Chemical Standardization of Sitopaladi Churna. *Ancient Science of Life*, 2012; 31(3): 107.
63. Kulkarni RV, Mutalik S, Banappa S, Mangond and Usha YN. Novel Interpenetrated polymer network microbeads of natural polysaccharides for modified release of water soluble drug: in- vitro and in vivo evaluation. *Journal of Pharmacy and Pharmacology*, 2012; 64: 530-540.
64. Ligade V, Sreedhar D, Manthan J, Ajay P, Pradeep M and N Udupa. Cosmetic Packaging: Silent Salesman in Self - Service Market. *The Pharma Review*, 2012: 65- 69.
65. Ethiraj KR, Nithya P, Krishnakumar V, Mathew J, Khan N. Synthesis and Cytotoxicity study of Pyrazoline Derivatives of Methoxy Substituted Naphthyl Chalcones. *Res Chem Intermed*, 2012.
66. Tumkur A, Muragundi PM, Shetty R, Naik AN. Pharmaceutical Care: Need of the hour in India. *Journal of Young Pharmacist*, 2012; 4(4): 282-86.

67. Augustine D, Naik AN, Vadhira BM, Balakrishnan R, Udupa N. Survival Outcomes Associated with chemotherapy treatment in a cohort of women with breast cancer in southern India. *GSTF Journal of Biosciences*, 2012; 2(1): 1-6.
68. Nayak Y, Jayashree BS, Unnikrishnan MK. Benzopyran - 4 - one is an Ideal Pharmacophore for Lead Optimization in Antidiabetic Drug Discovery. *Research Journal Pharmaceutical Technology*, 2012; 5(8): 1025-33.
69. Unnikrishnan MK. Kionophilia Revisited: the evolutionary link between mate selection and face recognition. *Current Science*, 2012; 102(4): 563-70.
70. Veerapur VP, Prabhakar KR, Thippeswamy BS, Bansal P, Srinivasan KK. Antidiabetic Effect of *Ficus racemosa* Linn. Stem Bark in High-Fat diet and Low-Dose streptozotocin - induces type 2 diabetic rats: A mechanistic Study. *Food Chemistry*, 2012; 132:1886-193.
71. Bansal P, Paul P, Kunwar A, Jayakumar S, Nayak PG, Priyadarshini KI, Unnikrishnan MK. Radioprotection by quercetin-3-O-rutinoside, a flavonoid glycoside - A cellular and mechanistic approach. *Journal of Functional Foods*, 2012; 4: 924-32.
72. Thiyagu R, Rajan MS, Guddattu V, Kamath A, Vilakkthala R, Rao PGM and Bairy KL. Cost of Adverse Drug Reactions In a South Indian Tertiary Care Teaching Hospital. *The Journal of Clinical Pharmacology*, 2012; 52: 559-65.
73. Naik RJ, Kulkarni MV, Pai KSR and Nayak PG. Click Chemistry Approach for Bis - Chromenyl Triazole Hybrids and Their Antitubercular Activity. *Chemical Bio Drug Des*, 2012; 80: 516-23.
74. Bhat P, Mor V, Muttineni R, Pai KSR, Chowdhary PVR, Kota S. Pharmacophore Modeling of Delta and MU Receptors and Synthesis as Delta Selective Agonists. *International Journal of Pharmacy & Technology*, 2012; 4(2): 4350-91.
75. Singla RK, Bhat V, Shenoy G, Jayashree BS, Kini SG, Joseph A, Jeyepakash RS, Vachala SD, Mathew JE, Udupa N and Igoli JO. An Efficient Synthesis of 1,5-Benzodiazepine Derivatives Catalyzed by Potassium Aluminium Sulfate Dodecahydrate & Evaluation of Their Antioxidant Activity. *Indo Global Journal of Pharmaceutical Sciences*, 2012; 2(3): 279-85.
76. Nampoothiri M, Varkey J, Noufal CV. Sub-Acute Malathion Induced Cardiotoxicity in Wistar Rats: Protective Effect of Vitamin C. *International Journal of Biological & Pharmaceutical Research*, 2012; 3(6): 779-83.
77. Rao JR, Sravanthi LK, Singh TR, Rajan S. Development and Validation of an Instrument to Assess the Perception of Pharmacy Students' on Medication Review Process. *Indian Journal of Pharmacy Practice*, 2012; 5(3): 69-74.
78. Rajesh R, Vidyasagar S, Varma DM, Noorunnisa, Guddattu V. Evaluation of Direct Cost of Adverse Drug Reactions to Highly Active Antiretroviral therapy in Indian

- Immunodeficiency Virus Positive Patients. *Journal of Clinical Research HIV Aids and Prevention*, 2012;1(1):1-11.
79. Rajesh R, Sudha V, Varma DM, Sonika S. Associate between Medication Adherence Outcomes and Adverse Drug Reactions to Highly Active Antiretroviral Therapy in Indian Human Immunodeficiency Virus - Positive Patients. *Journal of Young Pharmacists*, 2012; 4(4): 250-260.
80. Kalaskar VV, Narayana K, Subrahmanyam VM and Rao JV. Partial Characterisation and Therapeutic Application of Protease from a Fungal Species. *Indian Drugs*, 2012; 49(10).
81. Datani RH, Kini SG, Mubeen M. Design, Synthesis and Vasorelaxant Activity of 5 - Nitro Benzimidazole Derivatives. *Journal of Computational Methods in Molecular Design*, 2012; 2(4):149-57.
82. Mubeen M, Kini SG. A Review on: The Design and Development of EGFR Tyrosine Kinase Inhibitors in Cancer Therapy. *International Journal of Therapeutic Applications*, 2012;5:29-37.
83. Vachala SD, Jacob D, Mathew JE. Synthesis and Biological Evaluation of Novel Pyrimidine - 2(1H)- ones/thiones as Potent Anti-inflammatory and Anticancer agents. *Medicinal Chemistry Research*, 2012; 21: 3598-3606.
84. Vachala SD, Srinivasan KK, Prakash PY. Synthesis and Evaluation of Fused Pyrimidine Derivatives as Anti-inflammatory, Antiproliferative and Antimicrobial Agents. *Medicinal Chemistry Research*, 2012; 21: 2998-3005..
85. Vachala SD, Srinivasan KK. Synthesis and Biological Activities of Some Fused Benzopyrimidine - 4- ones. *Medicinal Chemistry Research*, 2012; 21: 2998-3000.
86. Suthar SK, Joseph A, Lohan S and Alex AT. Superbug NDM - 1: A Global Health Problem. *Der Pharmacia Lettre*, 2012; 4(4): 1183-87.
87. Venkatachalam H, Nayak Y and Jayashree BS. Synthesis, Characterization and Antioxidant Activities of Synthetic Chalcones and Flavones. *Asia - Pacific Chemical, Biological & Environmental Engineering Society*, 2012; 3: 209-13.
88. Chowdary PVR, Elaiyalvar R, Mehta K. Jayashree BS. Novel Route for Facile Synthesis of Glyuclamides from Sydnones and their Evaluation of Anticancer and Antioxidant Activities. *International Journal of Pharmaceutical Research and Development*, 2012; 4(8):138-41.
89. Jayashree BS, Chaturvedi P, Venkatachalam H, Chaudhary PVR, Nayak Y. Antiglycation and Anticancer Activity of Some newer synthetic Flavones. *Der Pharma Chemica.*, 2012; 4(4): 1626-30.
90. Sekhar S, Sasidharan S, Joseph S, Kumar A. Migraine Management: How do the adult and Paediatric Migraines Differ? *Saudi Pharmaceutical Journal*, 2012; 20: 1-7.

91. Swamy M, Murahari, JeyaPrakash RS, Kar SS, Ganeshkumar T, Vasanth Raj P, Raju DS. Synthesis, Characterization and In Vitro Anticancer Activity of Quinazolinone Derivatives. Journal of Pharmacy Research, 2012; 5(5): 2743-46.

D. Papers presented at National and International Conferences

National Conferences

1. Bhaskar KV and Yadav AK. Synthesis and Antimicrobial Activity of Tetrahydrobenzo [b] Pyran and its Derivatives. IISC, Bangalore during February 5-8, 2012.
2. Udupa N. Role of Herbals in Cosmeceutical and Nutraceutical Applications. International Consultation on Ecotechnology and Sustainability Science. Sri Venkateswara Vedic University, Tirupati, February 29 – 2 March, 2012.
3. Udupa N. Nanotechnology for delivering phytopharmaceuticals for treating various diseases. National Conference on Modern Innovations and Approaches in Biotechnology (NCMIAB-2012), Department of Biotechnology, Sri Padmavati Mahila Vishwavidyalayam Tirupati. February 29 – 2 March, 2012.
4. Setty MM, Srinivasan KK and Shirwaikar A. Effect of Aqueous Extract of Hybanthus enneaspermus in Gentamicin Induced Renal Damage. Rajkot during March 9-11, 2012.
5. Pai V, Savadi RV, and Bhandarkar. Phytochemical Investigations and Pharmacological Evaluation Of Zanthoxylum rhetsa Roxb. (Bark) for Anti-Diabetic Activity. Rajkot, March 9-11, 2012.
6. Vamshi Krishna T., Naveen D, Reddy MS. Formulation and Evaluation of Fixed Dose Combination Products of Rifampicin and Isoniazid with Improved Rifampicin Stability. Manav Bharati University, Solan, Himachal Pradesh, September 29-30, 2012.
7. Unnikrishnan MK, Mathew G. Mast Cell Stabilization, AMPK Activation and Vitamin D Supplementation: A Darwinian Strategy for Treating Atherosclerosis. Annamalai University, Chidambaram during September 1-3, 2012.
8. Muragundi PM. Evidence Based Advertisement: Where is the Pharmacoeconomic and Humanistic Outcomes Research Evidence? India International Centre, New Delhi during October 6-8, 2012.
9. Kumar L, Reddy MS, Shirodkar RK, Pai GK, Vamshi Krishna, Verma R. Preparation and Evaluation of Fluconazole Vaginal Films. 17th Annual National Convention of APTI at Manipal during October 12-14, 2012.
10. Chowdary PVR, Raveendran N, Mehta KC and Bhat V. Rational Design of Substituted Acetamides Bearing 2-[3-Acetyl Phenoxy] Motifs as Novel Acetylcholinesterase Inhibitors. 17th Annual National Convention of APTI at Manipal during October 12-14, 2012.

11. Verma R, Gauthaman K, Das M, Saleem T S M, Kumar L. Cardioprotective Activity of Catechin Fraction From Black Tea on Oxidative Stress Models of Myocardial Ischemic Reperfusion Injury – A Phytopharmacological Study. 17th Annual National Convention of APTI at Manipal during October 12-14, 2012.
12. Abraham A and Kini SG, Synthesis and Vasorelaxant activity of novel 1-Hsubstituted and 1, 2-disubstituted benzimidazoles derivatives. 17th Annual National Convention of APTI at Manipal during October 12-14, 2012.
13. Aswatha Ram H.N, Shreedhara CS. Application of E-Learning in Pharmacognosy. 17th Annual National Convention of APTI at Manipal during October 12-14, 2012.
14. Aswatha Ram HN, Srivastava NK, Shreedhara CS. HPTLC Determination of Gallic Acid content in Ajmodadi Churna. Bhopal, Madhya Pradesh during December 7-10, 2012.
15. Girish Pai. Comparative Evaluation of Cephalosporin Injectable product manufactured by Generic and Innovator Company. 64th IPC-2012 held at Chennai during December 7-9, 2012.
16. Vamshi Krishna T., Reddy MS. Formulation and evaluation of enteric coated combination tablets of Rifampicin and Isoniazid with improved Rifampicin stability. 64th IPC-2012, Chennai, December 7-9, 2012.
17. Bhagawati ST and Bhat KM. Nine Digit Fairy Tale. 64th IPC-2012, Chennai, December 7-9, 2012.
18. Naik AN. Critical Analysis of Product inserts of Pharmaceuticals. 64th IPC-2012, Chennai, December 7-9, 2012.
19. Vaishnav JG., Singh S, Janodia MD, Udupa N. Significance of Patent Pool in Modern Era of Medicines. 64th IPC-2012, Chennai, December 7-9, 2012.

International Conferences

1. Jeyaprakash RS, Srinivasan KK and Kutty NG. Synthesis and evaluation of antimalarial activity of rhodanine analogues. Kathmandu University, Nepal during February 25-26, 2012.
2. Vachala SD. and Srinivasan KK. Docking, Synthesis and Biological Evaluation of Some Novel Angularly Fused Pyrido[3,2:4,5]Furo[3,2-D]Pyrimidin-4(3H)-One Derivatives As Antioxidant, Anti-Inflammatory and Anticancer Agents. Kathmandu University, Nepal during February 25-26, 2012.
3. Nandakumar K, Saikrishna K, Kumari R. Development of New Animal Model for type II Diabetes by Combining Monosodium Glutamate with high Carbohydrate. Kathmandu University, Nepal during February 25-26, 2012.

4. Kishore A, Talwar S, Nandakumar K and Nayak PG. An in vivo evaluation of anti-inflammatory activity of lignin mixture isolates from *Cedrus deodara*. Kathmandu University, Nepal during February 25-26, 2012.
5. Shenoy RR, Arun TS, Rao CM and Kutty NG. Evaluation of glibenclamide and ashwagandha in insulin resistance rodent model. Kathmandu University, Nepal during February 25-26, 2012.
6. Kumar N, Vasanth Raj, Jain P, Rao CM and Udupa N. Assessment of In vitro and in vivo hepatoprotective action of dehydrozingerone in D-galactosamine-induced hepatotoxicity model. Kathmandu University, Nepal during February 25-26, 2012.
7. Arun TS, Shenoy RR, Rao CM, Kutty NG. Assessment of Sallaki and Glibenclamide Interaction in Insulin Resistant Albino Rats: A PK/PD Profile. Kathmandu University, Nepal during February 25-26, 2012.
8. Khera K, Nagappa AN, Thunga G, and Rao NR. Adverse Reaction Pattern Among Rheumatoid Arthritis Patients in a Tertiary Care Hospital. Hong Kong during February 4-5, 2012.
9. Rao JV, Joy AM, Gandhi P and Mathew J. Anticolon Cancer Activity of Roots of *Inula racemosa*. Kathmandu University, Nepal during February 25-26, 2012.
10. Naha A, Koteswara KB, Pai VK. Novel Interlinked Polymer Network for Controlled Drug Delivery. Penang, Malaysia during March 23-24, 2012.
11. Mutalik S. Effect of Peptide Dendrimers on the Transdermal Permeation of 5-Fluorouracil. DUPHAT Dubai International Convention & Exhibition Centre, Dubai during March 12-14, 2012.
12. Koteswara KB, Das A, Naha A. Chronotherapeutic drug delivery of Naproxen for the treatment of Rheumatoid Arthritis. DUPHAT Dubai International Convention & Exhibition Centre, Dubai during March 12-14, 2012.
13. Reddy MS, Naha A, Udupa, N. Development and in vitro evaluation of self-microemulsifying drug delivery system (SMEDDS) containing glibenclamide. DUPHAT Dubai International Convention & Exhibition Centre, Dubai during March 12-14, 2012.
14. Lewis S, Prerana S and Kumari S. Formulation and Evaluation of an Antidiabetic and Antihypertensive in a Single Dosage Form. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
15. Joseph A, Shah C and Suthar SK. In Vitro Antioxidant and Anticancer Activity of Thiadiazole Substituted Thiazolidin-4-Ones. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.

16. Bhatt VG, Shenoy GG and Bairy KL. Antitubercular Activity of novel 2-oxo-4-(3-phenoxyphenyl)-6-phenyl-1,2,3,4-tetrahydropyridine-3-carbonitrile derivatives. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
17. Kini SG and Datani R. Synthesis and Vasorelaxant Activity of novel 5-nitro Benzimidazole Derivatives. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
18. Pai A, Jayashree BS and Kawde S. Synthesis, Characterization, Antioxidant and Anticancer Evaluation of Substituted Thiochalcones. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
19. Shreedhara CS, Kumar VS, Sanghai DB, Rao CM. Simultaneous Estimation of Quercetin and Gallic Acid in Melia azedarach L by HPTLC Method. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
20. Nayak Y, Jayashree BS, Unnikrishnan MK. Antioxidant, DNA protection and antiglycation activity of benzopyrone-4-one analogues. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
21. Thunga G, Sam KG, Vidyasagar S. Study of factors influencing Intermediate Syndrome in Organophosphorous poisoning – A prospective observational study. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
22. Shetty PK, Thunga G, Sam KG, Vidyasagar S. Adverse drug reactions(ADRS) in Organophosphorus (OP) poisoned patients. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
23. Udupa N, Pise A, Sreedhar D, Janodia M, Ligade V. Perception Mapping of Novel Education Approaches among Post Graduate Students Studying Pharma Management Program. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
24. Ligade VS, Udupa N and Varambally KVM. Perception of consumers towards cosmeceutical products in India. Hong Kong, March 29 – April 1, 2012.
25. Pise A, Pise S and Udupa N. Strategic analysis of branding strategies of popular pharmaceutical brands. Hong Kong, March 29 – April 1, 2012.
26. Sreedhar D, Muragundi P and Udupa N. Entrepreneurship as a career option: An opinion survey of postgraduate students. Hong Kong, March 29 – April 1, 2012.
27. Naik AN, Khera K, Naik V, Thunga G, Sharma S and Rao NR. Drug utilization pattern among rheumatoid arthritis patients in a tertiary care hospital. London, March 17-19, 2012.
28. Musmade PB, Shravani P, Bhat KM, Muragundi PM and Udupa N. Personnel Validation: USFDA and WHO perspective. Hong Kong, March 29 – April 1, 2012.

29. Krishna BSM, Bhat KM, Shenoy GG. Stability indicating validated HPLC method for determination of Febuxostat in drug substance and marketed formulation. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
30. Dengale SJ, Bhat KM, Shenoy GG. Effect of single dose Ritonavir on the oral pharmacokinetics of CYP3A4 probe drug Midazolam. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
31. Hussein SS, Udupa N, Bhat KM. Stability Indicating Validated RP-HPLC method for Simultaneous Determination of Lamivudine, Zidovudine and Avacavir Sulphate in drug substance and marketed formulation. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
32. Mathew J, Rao CM, Atulya M, Rao JV, Udupa N. In vitro anticancer activity of Xanthium strumarium in colon cancer cells. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
33. Alex AT, Udupa N, Rao JV, Reddy MS. Formulation and Evaluation of Carboplatin Loaded PLGA Nanoparticles. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
34. Sivagurunathan N, Naik AN, Rao JV and Udupa N. Enhancement of L-asparaginase production by isolated *Aspergillus terreus*. DUPHAT Dubai International Convention & Exhibition Centre, Dubai, March 12-14, 2012.
35. Pai SR, Kumar H, Kumar SM, Setty M, Maliyakkal N. Study the Anti-cancer Effects of *Mimusops elengi* Linn in Human Cancer Cells. San Diego, CA, USA, 21-23, May 2012.
36. Daisy PA, Naik AN, Udupa N, Vadhira BM, Rajesh B. The Adverse Drugs Reactions (ADRs) experiences after pharmacological Treatment for breast cancer: A comparative study among different drug regimens in a Tertiary Care Hospital in southern part of India. Melbourne, Australia, May 9-11, 2012.
37. Deshpande P, Kumar A, Naseer M, Averineni R, Shavi G, Arumugam K, Reddy MS, Udupa N. Nanoparticulate approach for enhanced cellular uptake and cytotoxicity of doxorubicin in human lung carcinoma cells. Barcelona, Spain, May 28-1 June, 2012.
38. Deshpande P, Kumar A, Averineni R, Musmade P, Shavi G, Mutalik S, Reddy MS, Udupa N. Formulation development of extended release lercanidipine loaded nanoproliposomes: In vitro and in situ assessment. Barcelona, Spain, May 28- June 01, 2012.
39. Udupa N, Pise A, Sreedhar D, Janodia M, Ligade V. Need Assessment of Pharmaceutical Care in Selected Part of South India. Washington, DC, USA, June 2-6, 2012.
40. Udupa N, Janodia MD, Muragundi PM. Need and Importance of Pharmacoeconomic Guidelines in India. Washington, DC, USA, June 2-6, 2012.

41. Jayashree BS and Patel HH. Bioisosteric Modification on Piperidinyl Chalcones as Useful Anticancer Agents. Colombo, Sri Lanka, June 20-22, 2012.
42. Vachala SD and Srinivasan KK. Synthesis, Characterisation and Biological Evaluation of Some Novel 2-Phenyl-3-Substituted Pyrido[2,3-D]Pyrimidin-4(3H)-Ones. Colombo, Sri Lanka, June 20-22, 2012.
43. Kini S, Ankush C, Pratik G, Shashank W, Ligade VS, Sreedhar D, Udupa N. Comparative Evaluation of Drug Information Sources used by Doctors. Taipei, Taiwan, September 2-4, 2012.
44. Udupa N. Perception Analysis of Pharmaceutical Care Practices Among General Physicians from part of South India. Taipei, Taiwan, September 2-4, 2012.
45. Muragundi PM, Priyendu A, Janodia M, Ligade VS, Udupa N, Naik AN. Knowledge and Practice of Disposal of date Expired and unused Drugs. Taipei, Taiwan, September 2-4, 2012.
46. Udupa N. Herbal Plant Products in Pharmaceuticals, Cosmeceuticals and Nutraceuticals in Promotion of Health. Johns Hopkins University, Rockville, Maryland, USA, September 6-8, 2012.
47. Vasanthraju SG, Parek J, Muddukrishna BS, Phanindra E. Development and Validation of Stability Indicating RP-HPLC Assay method for Fosamprenavir Ca in drug substance. Nottingham, U.K, September 12-14, 2012.
48. Hussein SS, Deshpande P, Shenoy P, Udupa N. Preparation and Evaluation of Tenofovir Loaded Eudragit RL and Eudragit RS Nanoparticle Formulation. Madrid, Spain during September 10-14, 2012.
49. Moorkoth S, Srinivasan KK, Naseer M. Synthesis and Evaluation of Anticancer Activity of Thiazolidinone Analogue of Flavone. Nottingham, U.K, 12-14, September 2012.
50. Tiwari M, Rao JV and Sivagurunathan N. Biosynthesis of Copper and its Wound Healing Activity. Nottingham, U.K, September 12-14, 2012.
51. Sanghai DB, Kumar VS, Shreedhara CS, Srinivasan KK. Identification and Estimation of Rutin in *Clitoria ternatea* L. Leaf by Planar Chromatography. Nottingham, U.K, September 12-14, 2012.
52. Lobo R, Bhagat J, Gupta N. In Vitro Cytotoxic Activity of an Indian Habitant *Anisochilus Carnosus* (L.F) Wall. On HeLa Cell Lines. Nottingham, U.K, September 12-14, 2012.
53. Chandrashekar KS and Vignesh. Isolation of the Steroids and Triterpenoid from the Stem Bark of *Alstonia scholaris* Linn. Nottingham, U.K, September 12-14, 2012.
54. Khan S, Rani S, Srinivasan KK, Shirwaikar A. HPTLC method development for the simultaneous estimation of Lupeol and β -Sitosterol in methanol extract of *Cissus quadrangularis* Linn. Nottingham, U.K, September 12-14, 2012.

55. Unnikrishnan MK. Face Recognition is an Explanation of Koinophilic Mate Selection: The Exception Report Hypothesis. Marseille, France, September 18-21, 2012.
56. Rajan MS, Faizal P, Vadiraja BM, Udupa N, Vidyasagar S. Population Pharmacokinetics of Paclitaxel in Indian Breast Cancer Patients. Seoul, South Korea, 5-7, September 2012.
57. Rajesh V, Rajan MS, Vijayanarayana K, Sravanthi L, Rodrigues G and Ananadrao BH. Development of Trigger Tool for Identifying Adverse Events in Surgery Department of an Indian Tertiary care Teaching Hospital. Birmingham, United Kingdom, September 9-10, 2012.
58. Suhaj A, Rao J, Lewlyn L, Raj Rodrigues, Rajan MS, Kamat A. Perception of Indian Future Pharmacists towards Pharmaceutical Care. Amsterdam, Netherlands, October 3-8, 2012.
59. Vijayanarayana K, Rau NR, Anantha Naik N, Thiyagu R, Rajesh V. Hospital acquired pneumonia: A multivariate analysis of risk and outcome. Amsterdam, Netherlands, October 3-8, 2012.
60. Sekhar SM, Vyas N, Unnikrishnan MK, Rodrigues G, Mukhopadhyay C. A Cross-sectional Study on Antimicrobial Susceptibility Pattern in Diabetic Foot Infections. Amsterdam, Netherlands, October 3-8, 2012.
61. Pise AG, Udupa N, Sreedhar D, Ligade V, Janodia M. Perception analysis of pharmacy graduate education system among pharmacy graduate students. Amsterdam, Netherlands, October 3-8, 2012.
62. Nagappa AN, Danish A, Joshi G. Evaluation of Drug Advertisement in Medical Journals. Amsterdam, Netherlands, October 3-8, 2012.
63. Dharmagadda S, Ligade V, Muragundi P, Udupa N. Awareness level of pharmacists about counterfeit medicines in Manipal and Udupi – A Survey. Amsterdam, Netherlands, October 3-8, 2012.
64. Janodia M, Udupa N. Tupsoundar P, Venkatarao J. Medicine labels – an insight into consumers' perspective. Amsterdam, Netherlands, October 3-8, 2012.
65. Reddy MS, Gujalwar TN, Deshpande PB, Ranjan OP, Gurram AK, Udupa N, Improvement of solubility and dissolution rate of efavirenz by nanocrystal approach. Chicago, IL, USA, 14-18 October, 2012.
66. Rao CM, Kumar N, Vasanthraj P, Deshpande PB. Formulation and in vitro hepatoprotective evaluation of Silymarin-liposomes against paracetamol induced liver toxicity. Chicago, IL, USA, 14-18 October, 2012.
67. Rajesh R, Vidyasagar S, Varma M, Naik A, Hedge B. Active Pharmacovigilance Study of Highly Active Antiretroviral Therapy in Indian Human Immunodeficiency Virus Positive Patients. Cambridge, MA, USA, November 11-13, 2012.

68. Pise AG. Seventeenth International Forestry and Environment Symposium 2012. Colombo, Sri Lanka, 16-17 November 2012.
69. Thunga G, Vidyasagar S. To identify the different risk factors influencing the pneumonia in Organophosphorous poisoning patients and its outcome. Hong Kong during 29th November to 1st December 2012.
70. Mutalik S, Kalra R, Parekh HS, Reddy MS, Udupa N. Combination of Iontophoresis and Peptide Dendrimers for Transdermal permeation of Ketoprofen across Human Skin. Melbourne, Australia, November 26-27, 2012.
71. Muragundi PM, Tumkur AM, Shetty RK, Udupa N, Naik AN. Body Mass Index and Health related quality of life among coastal rural population. Colombo, Sri Lanka, December 3-4, 2012.
72. Ligade VS, Sreedhar D, Udupa N. Perception of women consumers towards cosmeceutical products in India. Colombo, Sri Lanka, December 3-4, 2012.
73. Nijhawan LP, Bhat KM, Udupa N and Musmade PB. Informed Consent: Issues and Challenges. Colombo, Sri Lanka, December 3-4, 2012.

E. PhD Degree Awardees

1. S. G. Vasantharaju: Development of Thiazolidin-4-One Derivatives for possible Hypolipidaemic and antidiabetic activities. Guide: Dr. N. Gopalan Kutty.
2. Virendra S. Ligade: Cosmeceuticals : Prospects, Perception and Regulatory Implications in Indian Context. Guide: Dr. N. Udupa, Co-Guide: Dr. K.V.M. Varambally.
3. Aruna Sudheendra Theerthahalli: The influence of sallaki (*Boswellia serrata*) and ashwagandha (*Withania somnifera*) on the pharmacokinetics and pharmacodynamics of two anti-diabetic drugs, a biguanide (metformin) and a sulfonylurea (glibenclamide) – A study in rodents. Guide: Dr. N. Gopalan Kutty, Co-guide: Dr. C. Mallikarjuna Rao.
4. N. Sivagurunathan: Exploration of Soil and Marine sources for microbes producing Asparaginase. Guide: Dr. Anantha N. Naik, Co- guide: Dr. N. Udupa.
5. Punit Bansal: Radioprotection by *Pilea microphylla* (L.) – a free radical mechanistic and molecular approach. Guide : Dr M. K Unnikrishnan, Co-Guide – Dr. N. Gopalan Kutty
6. Daisy P.A.: Outcome of Pharmacological Management of Women with Breast Cancer in a selected Tertiary Care Hospital. Guide: Dr Anantha N. Naik, Co-guide: Dr N. Udupa & Dr B. M. Vadhiraaja.
7. Piya Paul Mudgal: Radioprotection by *Coronopus didymus* (L.) – a free radical mechanistic and molecular approach. Guide: Dr. M. K. Unnikrishnan, Co-Guide: Dr. Anantha N. Naik

8. Vachala S.D: Studies on Synthesis of novel fused pyrimidine analogues with anticancer and anti inflammatory potential. Guide: Dr. K.K. Srinivasan, Co-Guide: Dr. N. Gopalan Kutty
9. Anup Naha: Preparation and Evaluation of self-emulsifying drug delivery system of Gliclazide and Glibenclamide. Guide: Dr. M. Sreenivasa Reddy, Co-guide: Dr. N. Udupa.
10. Saleemulla Khan: Development of a herbal dietary supplement for the management of osteoporosis. Guide: Dr. Annie Shirwaikar.
11. Naseer M. Study of Selected Indigenous Medicinal Plants Bearing Sesquiterpene Lactones for Anticancer Activity in Human Breast Cancer Cells. Guide: Dr. K. Sreedhara Ranganath Pai. Co-guide: Dr. N.Udupa

F. Equipment/ Instruments for carrying Research Activities

NAME OF EQUIPMENT/ INSTRUMENT	DEPARTMENT
Miniature aerator	Pharmacology
UV-VIS spectrometer uv-1650	Pharmacology
Elico make scanning spectrophotometer	Pharmaceutical Biotechnology
Alphaimager enhanced resolution get documentation and analysis system	Pharmaceutical Biotechnology
Shimadzu dns/protein/enzyme analyzer	Pharmaceutical Biotechnology
Flow cell	Quality Assurance
Eppendorf mastercycler gradient "licensed & authorised for pcr "	Pharmaceutical Biotechnology
Eppendorf centrifuge	Pharmaceutical Biotechnology
Kalweka multipurpose machine	Pharmaceutics
Sybyl software	Pharmaceutical Chemistry
Ultra low temp. Vip freezer (-86)	Pharmaceutical Biotechnology
Julabo microprocessor water bath	Pharmaceutical Biotechnology
Drug design software	Pharmaceutical Chemistry
Microtome	DST
Analgesiometer with cooling chamber	Pharmacology

HPLC system	Pharmaceutical Chemistry
Histamine apparatus with sphygmomanometer	Pharmacology
Auto analyzer	DST
15kva static convertor ups	Quality Assurance
E & i make digital photo colorimeter	Pharmaceutical Biotechnology
Freeze dryer (-50 to -55)	Pharmaceutical Biotechnology
Oil bath	Pharmaceutical Chemistry
Freeze dryer (-20)	Pharmaceutical Biotechnology
Dehumidifier	Quality Assurance
Dual wave	Quality Assurance
Magnetic stirrer	Quality Assurance
Analytical balance 0.01/0.1mg	Quality Assurance
Universal microplate reader elx 800ms	Pharmacology
Water distillation set	Quality Assurance
Heavy duty rotary shaker	Pharmaceutical Chemistry
Uv-vis spectrometer uv-2450	Pharmaceutical Chemistry
Mobile phase filtration assembly	Pharmaceutical Chemistry
Dsc assay & beam splitter	Quality Assurance
Vortex shaker	Quality Assurance
Micro centrifuge	Quality Assurance
Refrigerated micro centrifuge	Pharmacology
Xplorer gel documentation system	Pharmacology
Hebb william mazewith digital time internal counter	Pharmacology
Centrifuge model-3k30	Pharmaceutics
R & d coating machine	Pharmaceutics
Co2 incubator	Pharmacognosy
Freeze dryer(-70)	Pharmacognosy
Rms polygraph	Pharmacology
Ec-ph cyberscan tutor ph meter	Pharmacognosy
Subcell gt/power pac basis system	Pharmacology
Eddys hot plate	Pharmacology
Analgesiometer with cooling chamber	Pharmacology

Capsule filling device	Pharmaceutics
Brook field rheometer	Pharmaceutics
Uv-vis spectrophotometer uv-1800	Quality Assurance
Nano zetasizer	Pharmaceutics
Combiflash rf200 automated flash chromatography system	Pharmaceutical Chemistry
Biosee-fast-transfer-ii semi dry system	Pharmaceutical Biotechnology
Olympus fluorescence inverted microscope	Pharmaceutical Biotechnology
Emulsiflex high pressure homogenizer	Pharmaceutics
Bpl-ecg machine	Pharmacology
Nano particle size analyzer	Pharmaceutics
Inverted binocular microscope	Pharmaceutical Chemistry
Xt set-24 position soln. Phase synthesizer	Pharmaceutical Chemistry
Ir affinity	Pharmaceutical Chemistry
Auto injector	Pharmacology
Dynamic planter aesthesiometer	Pharmacology
Blotting unit	Pharmacology
Ultracentrifuge	Quality Assurance

G. Golden Jubilee Celebration Activities

Conferences and Workshops

1. National Seminar on Nano sciences was held under the aegis of Indian Society of Nanosciences at Manipal College of Pharmaceutical Sciences (MCOPS) on Friday, 27 January 2012.
2. National Seminar by Association of Community Pharmacists of India (ACPI), Association of Practicing Pharmacists and Clinical Pharmacologists (APPCP) and International Society of Pharmacoeconomics and Outcomes Research (ISPOR) on 28th Jan. 2012.
3. 27th Annual National Convention of Indian Pharmacy Graduates' Association (IPGA) was held during 28th and 29th of January 2012.
4. The 48th Annual Conference of Indian Hospital Pharmacists' Association (IHPA) was held during February 18-19-, 2012
5. A two-day Annual Convention of Indian Pharmaceutical Association (IPA) was held during March 17-18, 2012.
6. The 17th Annual Convention of Association of Pharmacy Teachers of India (APTI) was held during Oct. 12-14, 2012.

7. The 5th Annual National Convention of Indian Association of Pharmaceutical Scientists and Technologists (IAPST) conducted on 4 November 2012.
8. 5th International Conference on Medicinal Plants and Herbal Products was held during Jan 25-27, 2013.

Events

1. The National Pharmacy League Cricket T20, which began on 27 March, 2012 was concluded at Manipal on Monday 2 April, 2012.
2. The National Pharmacy Quiz- was conducted on Saturday, 18 August 2012.
3. Felicitation of Retired Teachers and Supporting Staff. The college felicitated former teachers and retired supporting staff in a fitting way. (About 50 members).
4. Golden Jubilee Celebrations: Special felicitation of Dr. A. Krishna Rao, Dr. P.L.N.Rao, Dr. P.G.Shivandnda, Dr. P.L.N.G.Rao, Dr. N.R. Rau and Dr. K.Ramnarayan.



Lectures

1. Mr. Ramesh Adige, former Chairman of Ranbaxy Laboratories Ltd, New Delhi and Director of Syndicate Bank addressed and delivered a special lecture on “Future prospects of pharmaceutical business” on 23rd March in connection with the Golden Jubilee Celebrations of Manipal College of Pharmaceutical Sciences, Manipal.
2. Dr. M. V. Kamath, Hon. Director, Manipal Institute of Communication and President, Prasar Bharathi delivered a lecture on “Indian Medicine - Ancient to Current Times” on 25th April 2012.
3. Dr. M. S. Valiathan, National Research Professor, Manipal Life Sciences Centre delivered a lecture on “New trends in Biomedical Research - Ayurvedic Biology” on 26th April 2012.

4. Dr. P. Gundu Rao, Former Principal MCOPS and Research Director - Divi's Laboratories Ltd. "Questions which are not frequently asked about IPR". 28th May 2012.
5. Dr. M.N.A. Rao, Former Principal MCOPS and Divi's Laboratories Ltd. "Metaphors in Science". 28th May 2012.
6. Dr. H. S. Ballal, Pro Chancellor, Manipal University, Manipal delivered a lecture on "Radiology - An Update" on 22nd June 2012.
7. Dr. G. Jagadeesh, Senior Expert Pharmacologist, US Food and Drug Administration (USFDA), Maryland, USA and Adjunct Professor of Manipal College of Pharmaceutical Sciences, Manipal conducted a half-day Seminar on the topic "Excellence in writing research proposals, funding, research methodology and scientific writing" on 18th December 2012.
8. Dr. Raj P. Warriar. Former Vice Chancellor, Manipal University. " New Therapeutic Approaches". January 12, 2013.

H. Achievements

1. Dr. N.Udupa – Scientific Convener for 64th Indian Pharmaceutical Congress, Chennai from December 7-9, 2012.
2. Dr. M.K.Unnikrishnan and Dr. C.Mallikarjuna Rao were speakers at 64th Indian Pharmaceutical Congress, Chennai from December 7-9, 2012.
3. Dr. N.Udupa received Dr. TMA Pai Endowment Chair in the area of Novel Drug Delivery Systems instituted by Padmabhusan Dr. Ramdas M. Pai.
4. Mr. Sai Balaji received Prime Minister's Fellowship.

I. Research Grants Received

1. Role of plant based antioxidants in prevention of postmenopausal bone loss. Research Promotion Scheme – AICTE, New Delhi. Principal Investigator – Dr. Saleemulla Khan.
2. Acute and subacute toxicity studies of finished products. Cholayil Pvt. Ltd. Chennai. Principal Investigator –Dr. C.Mallikarjuna Rao.
3. Preparation and Evaluation of nano particulate Sunscreens containing plant based polyphenols. Department of Biotechnology, New Delhi. Principal Investigator – Dr. Srinivas Mutalik.
4. Design and Development of nanoparticulate systems for the treatment of brain cancer by way of nasal route. Department of Biotechnology, New Delhi. Principal Investigator – Dr. N.Udupa.

5. Intravenous Test Drug Administration in rats. Manipal Acunova. Principal Investigator – Dr. C. Mallikarjuna Rao.
6. Synthesis and Screening of newer analogues of triazoles an anti-infective agents. Indian Council of Medical Research (ICMR), New Delhi. Principal Investigator – Dr. G. Gautham Shenoy.
7. Study the anti-cancer effect of indigenous medicinal plants bearing sesquiterpene lactones in human epithelial cancer stem cells. Department of Biotechnology, New Delhi. Principal Investigator – Dr. N.Udupa.
8. Investigation of the modulation of insulin signaling pathways by novel thiazolidin-4-one derivatives and their implications in metabolic disorder. Science and Engineering Research Board, New Delhi. Principal Investigator – Mr. Anoop Kishore.
9. Design of diphenyl ether derivatives targeting mycobacterial enoyl acyl carrier protein reductase. Indian Council of Medical Research (ICMR), New Delhi. Principal Investigator – Dr. G. Gautham Shenoy.
10. Effect of turmeric extracts on inflammatory edema and biomarkers on inflammation in animal models. Arjuna Natural Extracts, Alwaye. Principal Investigator– Dr. C. Mallikarjuna Rao.
11. Project from Stempeutics Pvt. Ltd., Manipal. Principal Investigator – Dr. N.Udupa.

J. Ongoing Research Projects

Sl. No.	Name of the Funding Agency (AICTE/Others)	Name of Scheme	Programme Title	Amount Sanctioned in lakhs
1.	AICTE	IIP	Industry Institute partnership cell	Rs.10.00 lakhs
2.	AICTE , New Delhi	MODROBS	Pharmacokinetic interactions of selected Anti diabetic drugs	Rs.15.00 lakhs
3.	DBT, New Delhi	R&D	Study the anti-cancer effects of Indigenous medicinal plants bearing sesquiterpene lactones in human epithelial cancer stem cells	Rs.30.00 lakhs
4.	Collaborations with industry partners such as Stempeutics and Getwell	R&D	Regenerative medicine and nanopharmaceuticals	Rs.10.00 lakhs